

EXPLORING THE ROLE OF NURSES AND MIDWIVES IN ANTIMICROBIAL STEWARDSHIP

EXECUTIVE SUMMARY

Antimicrobial stewardship in its simplest term means 'taking care of antibiotics'. By this we mean ensuring appropriate use of antimicrobials to preserve the effectiveness of these important medicines for future generations. It is widely acknowledged that a multiprofessional approach to antimicrobial stewardship is required involving all healthcare staff who prescribe, administer or monitor antimicrobial treatment. The Scottish Antimicrobial Prescribing Group (SAPG) identified the benefits of involving front line nursing staff in stewardship but also identified a possible lack of knowledge and understanding of antimicrobial stewardship amongst nurses and midwives. In order to find out if this were the case a survey was designed to scope current understanding of antimicrobial stewardship in nursing and midwifery to inform development of an education resource to meet the learning needs of this staff group.

The survey was based on a previous paper based survey that had been carried out in NHS Lothian. A Survey Monkey© on-line tool was developed which allowed nurses and midwives to input data. The tool was disseminated to nursing and midwifery staff in all NHS boards via the Scottish Executive Nurse Directors group. In addition to the on-line survey a small sample of nursing and midwifery staff was asked to complete the survey through oral discussion with a Senior Charge Nurse or an Infection Control Nurse during a 'walk about'.

In total 901 responses to the survey were obtained with 46 of these being from the 'walk about' in NHS Tayside. The largest number of respondents (36.8%) came from NHS Tayside. The greatest proportion of respondents described their specialism as community care (40%). There was an even split amongst seniority with AFC bands 5, 6 and 7 being relatively equally represented. 80% had been qualified more than 10 years.

There was a relatively low level of understanding of the term 'antimicrobial stewardship' by nurses and midwives (only 22% of respondents had heard of the term) although this improved with increased seniority (11% of band 5s vs. 33% of band 7s). The majority (74%), of respondents thought that education about antimicrobial stewardship should begin prior to registration.

When asked about the format education for a role in anti-microbial stewardship on the ward should take, most respondents (54%) favoured a blend of styles. Encouragingly 58% thought that everyone on the ward should play a role in antimicrobial stewardship. When asked about the specific role of nurses and midwives, 37% of those that answered said they should ensure appropriate antimicrobial use with specific references to overuse and duration being made. Up-to-date knowledge of antimicrobials and education of colleagues and patients were also mentioned by a number of respondents (29% and 22%).

The perceived personal barriers to accepting and embedding antimicrobial stewardships were mainly 'time constraints and workload' (26%) with the next most common being 'changing practice/habits/attitudes'(16%).

When asked about ongoing support to take forward antimicrobial stewardship on the ward support from colleagues was mentioned most often (37/183) with the next two most commonly reported areas being 'management / senior staff' (36/183) and 'pharmacy' (29/183). 25% mentioned that updates in information were important and 19% thought that a specific expert contact or mentor would help.

The results of the survey showed that the term "antimicrobial stewardship" is not widely known by practicing nurses and midwives in Scotland. Therefore there is scope for education to improve knowledge in this area at undergraduate level and beyond. Those who did understand the term recognised that it was a continually evolving area and the need to keep up-to-date. This suggests that some sort of mechanism for continually updating nurse's antimicrobial knowledge should be put in place. Many also felt they needed support to implement their stewardship role particularly from colleagues. Therefore thought should be given on how to develop a network of colleague support/expert mentors that would provide this. The main perceived barriers to embedding anti-microbial stewardship were 'time constraints and workload'. The other main perceived barrier of 'changing practice/habits/attitudes' is more cultural and may need a whole system/organisation approach.

The survey results are being used by SAPG and NHS Education for Scotland (NES) to develop and implement an education resource utilising existing education delivery systems in NHS boards.

Jacqueline Sneddon, Project Lead for SAPG
Gill Walker, Programme Director HAI, NES

REPORT ON SURVEY TO SCOPE LEARNING NEEDS OF NURSES AND MIDWIVES TO SUPPORT THEIR ROLE IN ANTIMICROBIAL STEWARDSHIP

BACKGROUND

As part of the multi-professional team approach to antimicrobial stewardship there is increasing recognition of the critical role of nurses and midwives in antimicrobial administration, management and monitoring. The Scottish Patient Safety Programme sepsis collaborative is also recognising the key role of nurses and midwives in the effective implementation of the Sepsis bundle. This demonstrates the important role of nurses and midwives in providing advocacy for patients to ensure medicines are used safely.

The Scottish Antimicrobial Prescribing Group (SAPG) and NHS Education for Scotland (NES) have also been promoting the contribution that nursing and midwifery staff can make to antimicrobial stewardship through education initiatives and quality improvement work and have been engaged with the Scottish Executive Nurse Directors (SENDs) group regarding the benefits of developing the nurses' role in stewardship.

SAPG and NES have received funding from the HAI Task Force to progress with a project to develop an education resource for nurses and midwives and a Senior Charge Nurse has been seconded from NHS Lothian as Project Manager. An Advisory Group comprising stakeholders from Scottish Government HAI Policy Unit, Associate Nurse Director (representing SEND), NES HAI and Pharmacy directorates, SAPG, Non-medical Prescribing Lead and an Antimicrobial Advanced Nurse Practitioner has been established and their primary objective will be to define the scope of education required and oversee the development of the resource content and delivery. As a first step in this process the Advisory Group commissioned a survey to scope the learning needs of nurses and midwives to support them in this emerging role.

AIMS AND OBJECTIVES

- To scope the current understanding of antimicrobial stewardship amongst nurses and midwives.
- To identify the learning needs of nurses and midwives at various grades and levels of experience across all NHS care settings.
- To identify preferred methods of education delivery and support mechanisms required.

METHOD

A survey was developed based on a paper-based survey used previously in NHS Lothian. A Survey Monkey© on-line tool was created to allow nurses and midwives to input data and SAPG to create a summary report. The tool was disseminated to

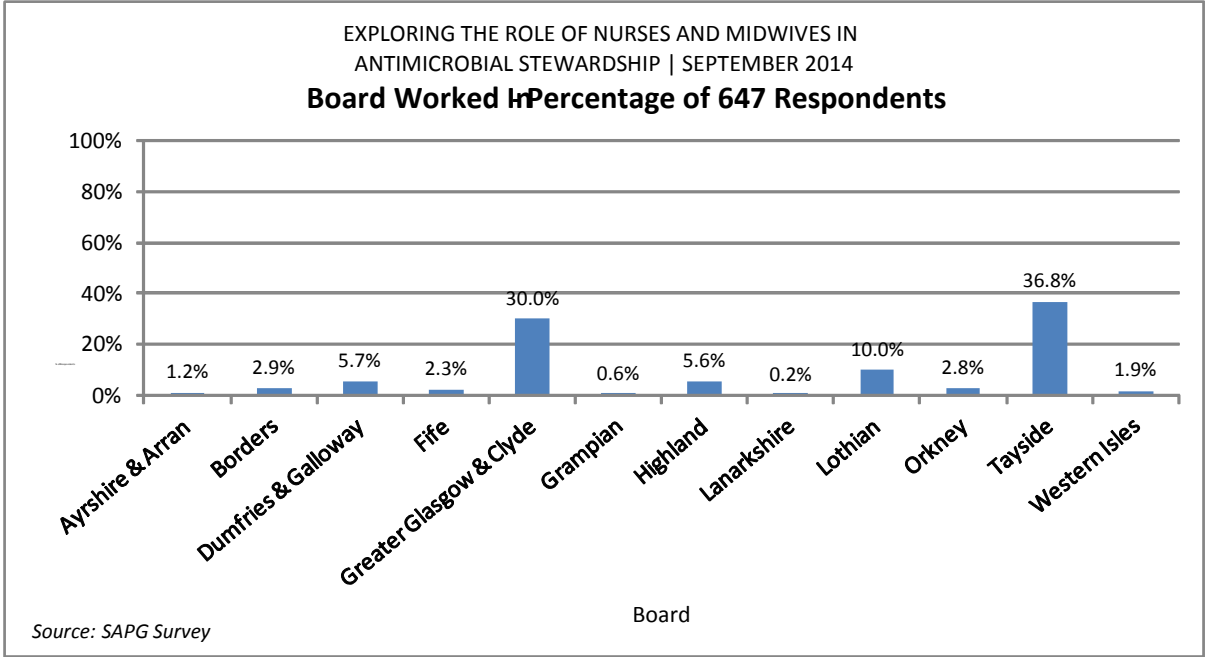
nursing and midwifery staff in all NHS boards via the Scottish Executive Nurse Directors group. In addition to the on-line survey a small sample of nursing and midwifery staff was asked to complete the survey through oral discussion during a 'walk about' by an Antimicrobial advanced Nurse Practitioner. Results from the on-line survey were analysed to create a report which will inform development of the education resource.

RESULTS

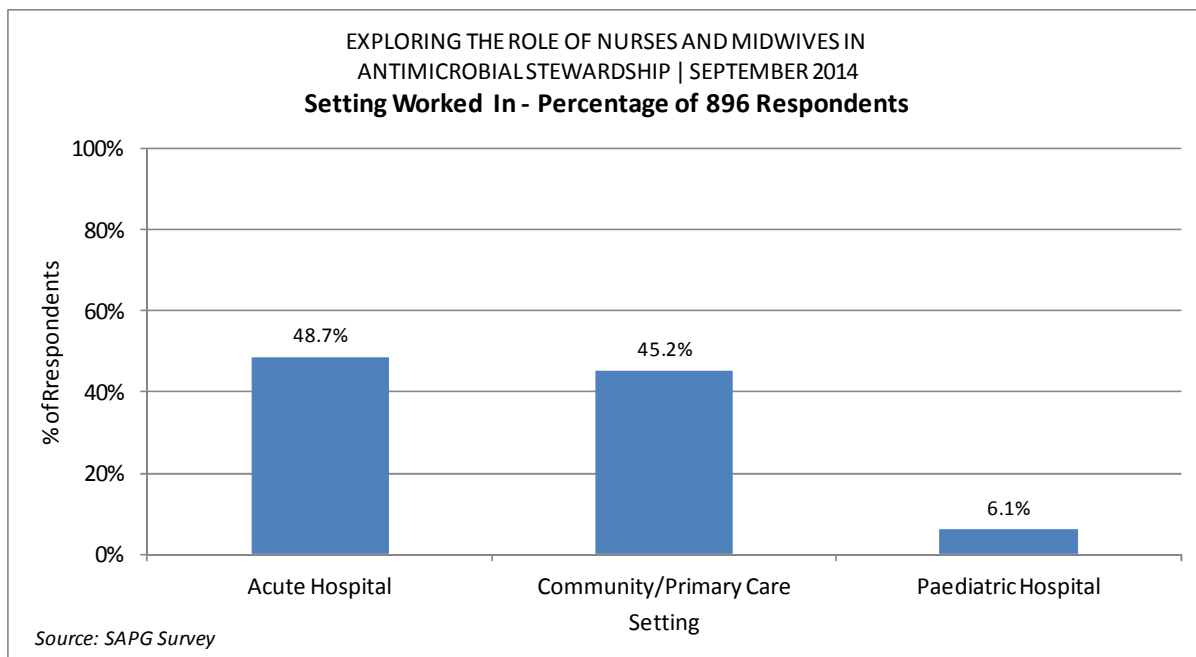
Which Hospital do you work in?

848 of the total 901 (94%) respondents specified a work area. Unfortunately the wording of the question mentioning 'Hospital' was not relevant to many respondents who indicated that they worked in a community setting. At least 171 separate work places were specified although a difficulty with interpreting responses means that this is only an approximate figure. The highest number of respondents from any single site was 137 from Ninewells Hospital in Dundee.

The Board worked in could be derived for 647 respondents. Over one third of respondents (238, 37%) worked in NHS Tayside with the next largest number (194, 30%) working in NHS Greater Glasgow and Clyde.

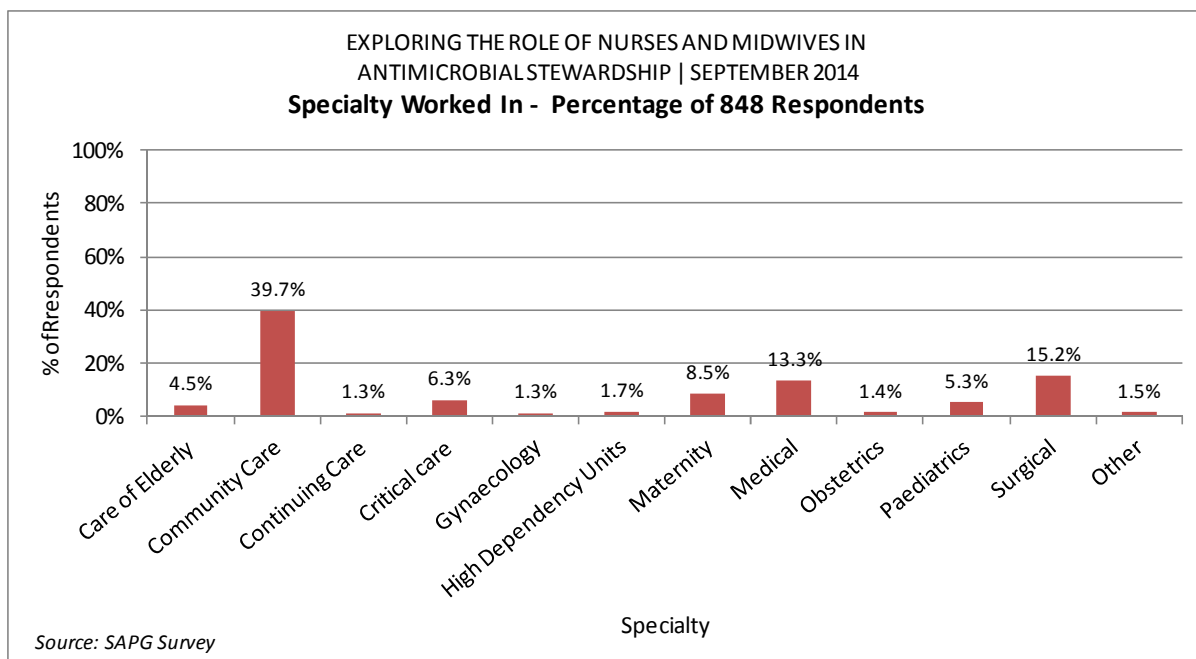


The Setting worked in could be derived for 896 respondents. Around 55% worked in an acute (including paediatric) setting with the remainder working in community or primary care.



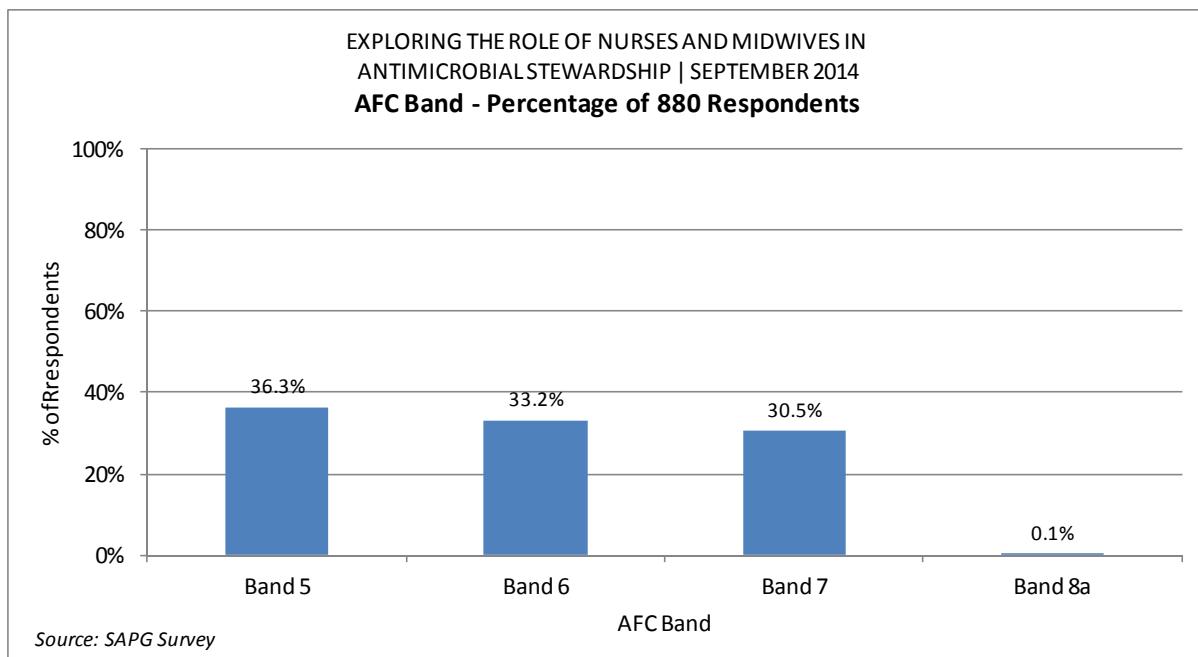
Which specialty do you currently work in?

848 of the total 901 (94%) respondents specified the specialty that they worked in. 337 (40%) answers indicated that the respondents worked in Community Care, with Surgical (15%) and Medical (13%) being the only other specialties where more than 10% of respondents worked.



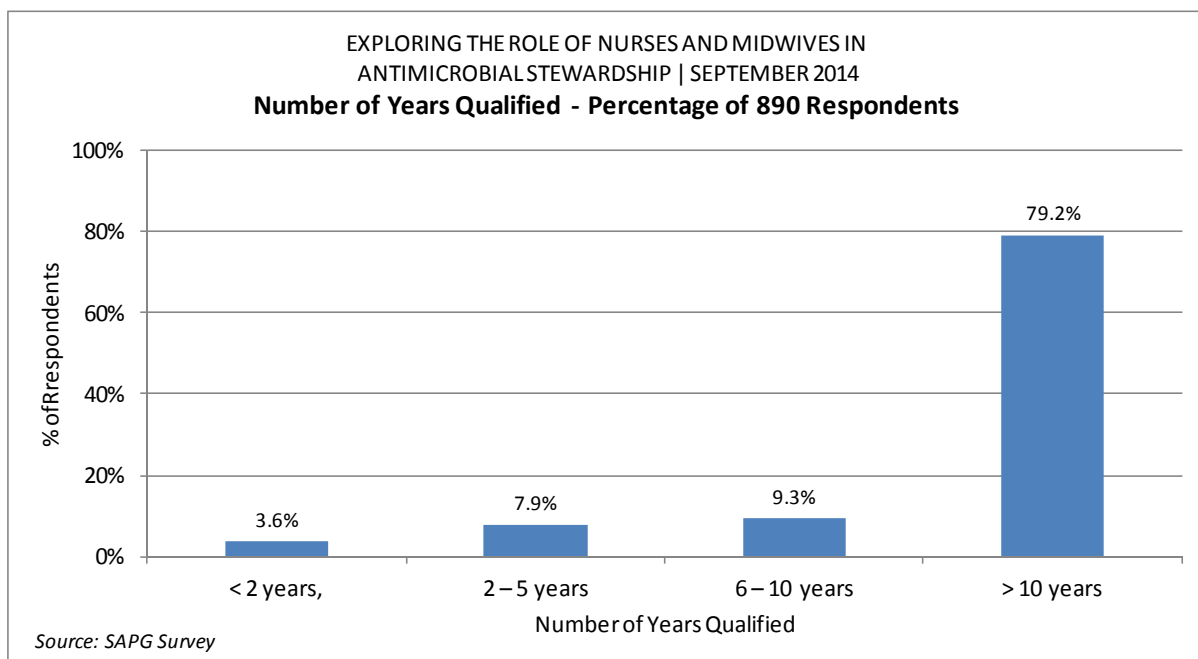
What AFC band are you?

880 of the total 901 (98%) respondents specified their AFC band. Respondents were relatively evenly split across the three AFC bands 5, 6 and 7 with approximately one third of respondents falling into each category.



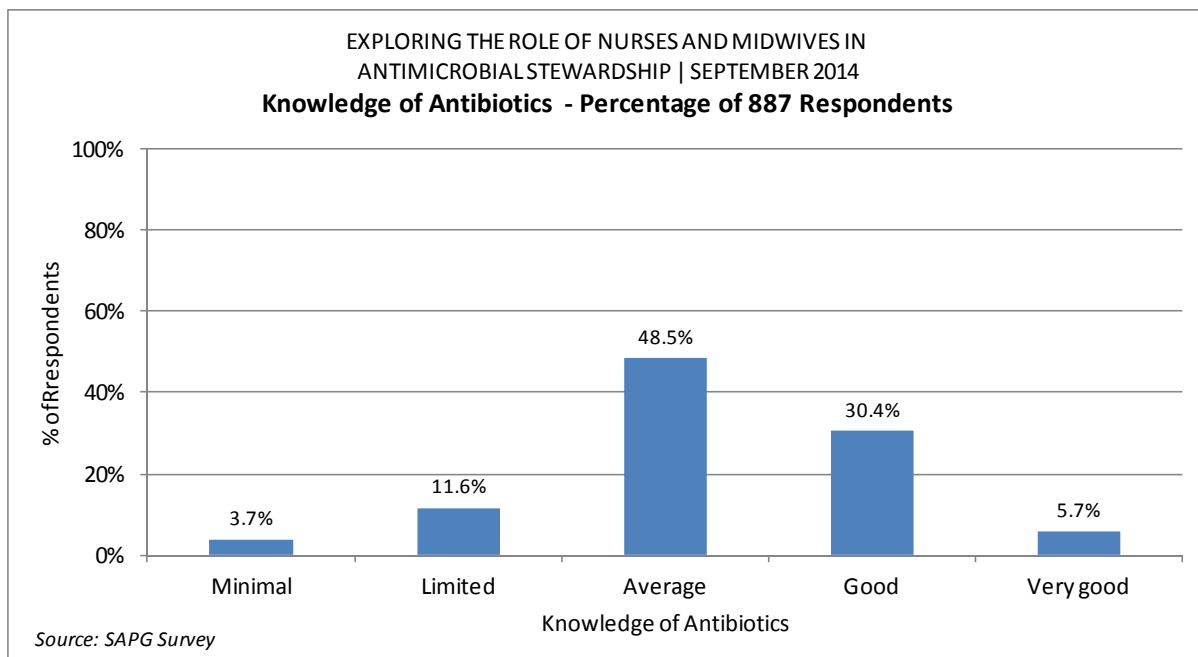
How long have you been qualified?

The majority (79%) of the 890 respondents to this question had been qualified for over 10 years.

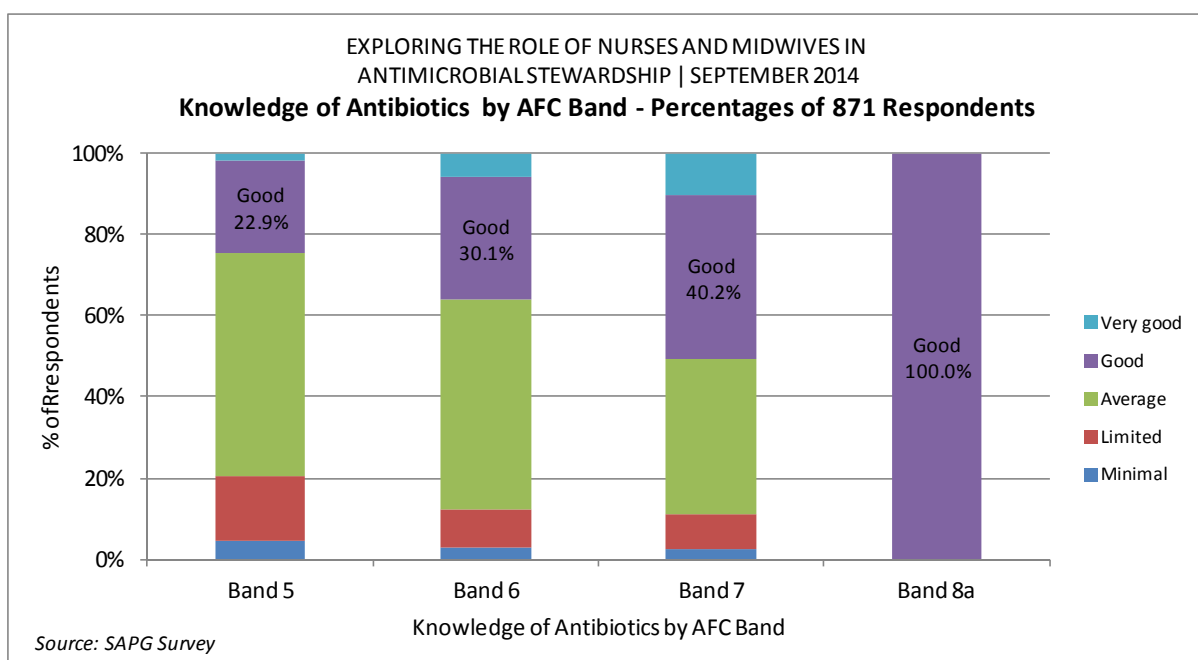


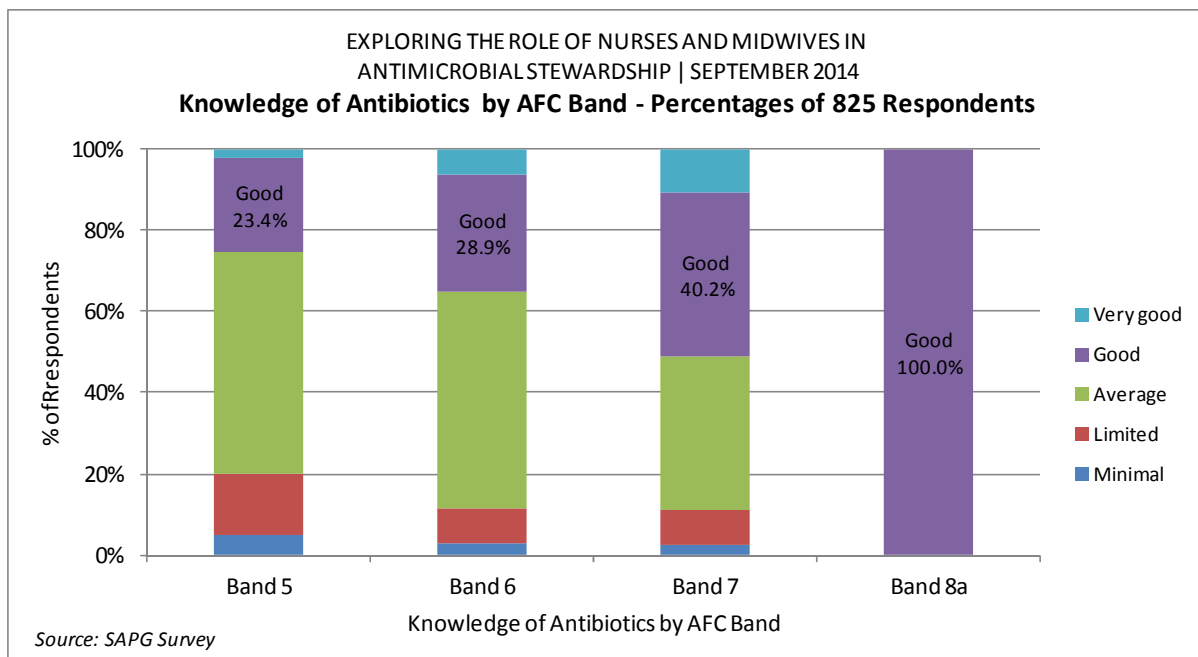
How would you rate your knowledge of antibiotics?

Approximately half (49%) of the 887 respondents rated their knowledge of antibiotics as average; 15% rated their knowledge lower than average ('minimal' or 'limited') and the remainder (36%) rated their knowledge as 'good' or 'very good'.



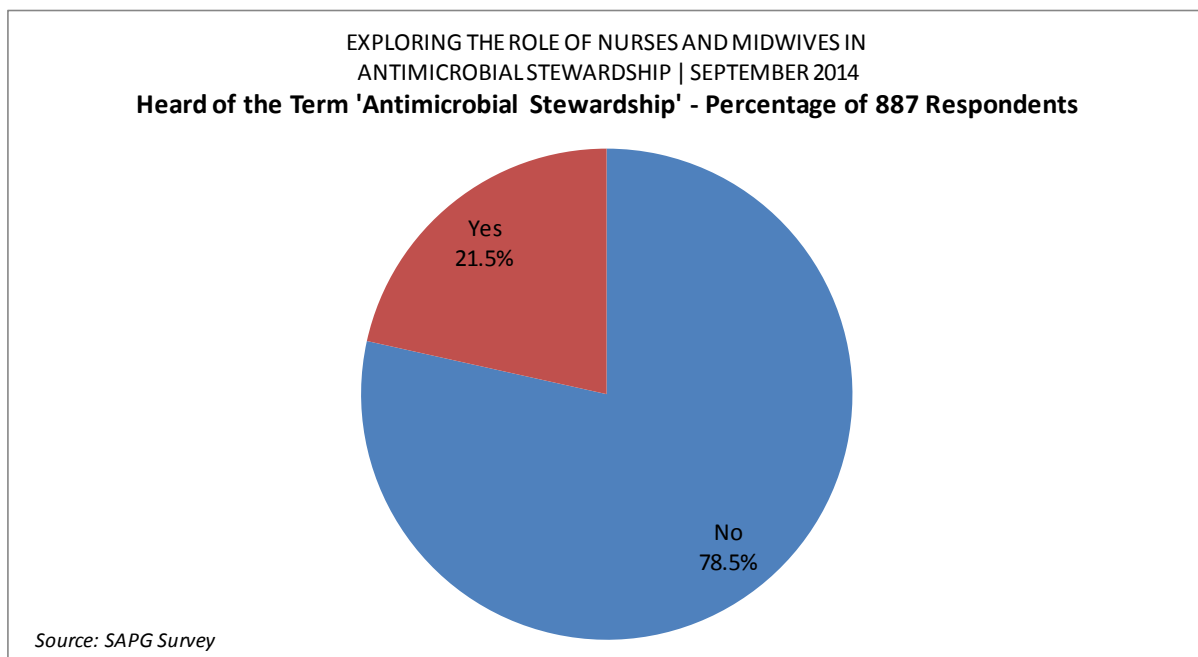
The responses to the ‘How would you rate your knowledge of antibiotics?’ were broken down by AFC band to examine how responses changed with increasing seniority. As expected, improved knowledge was reported as seniority increased; with the % responding in the top two knowledge categories for Band 7s being double that of Band 5s.



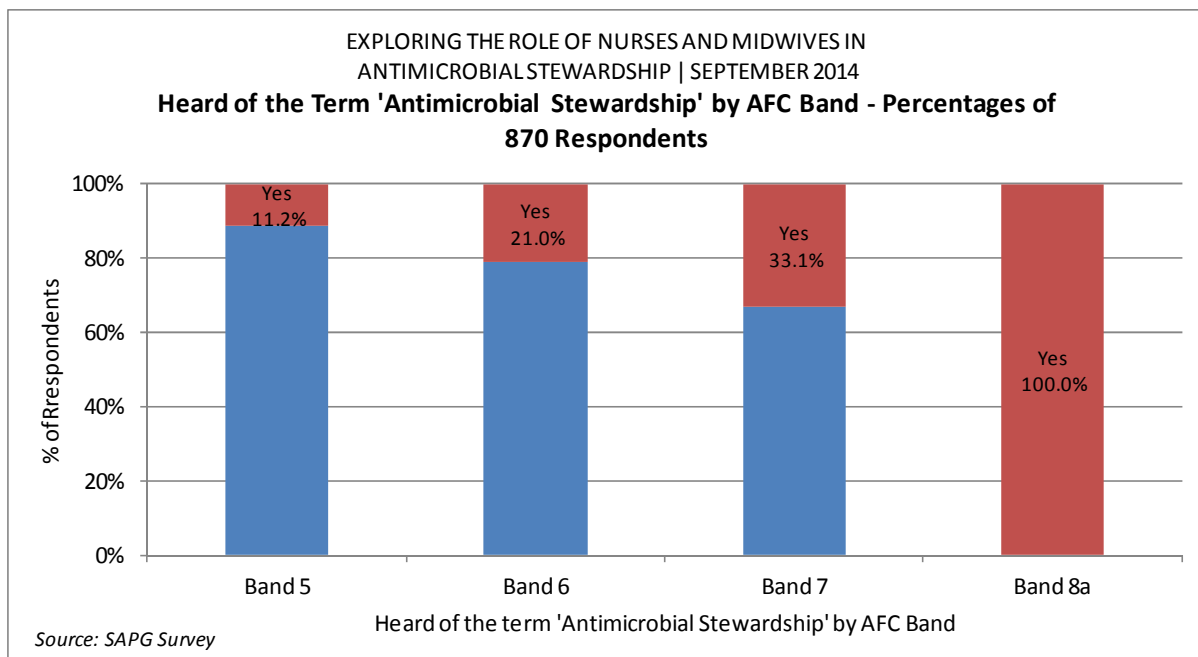


Have you heard of the term “Antimicrobial Stewardship”?

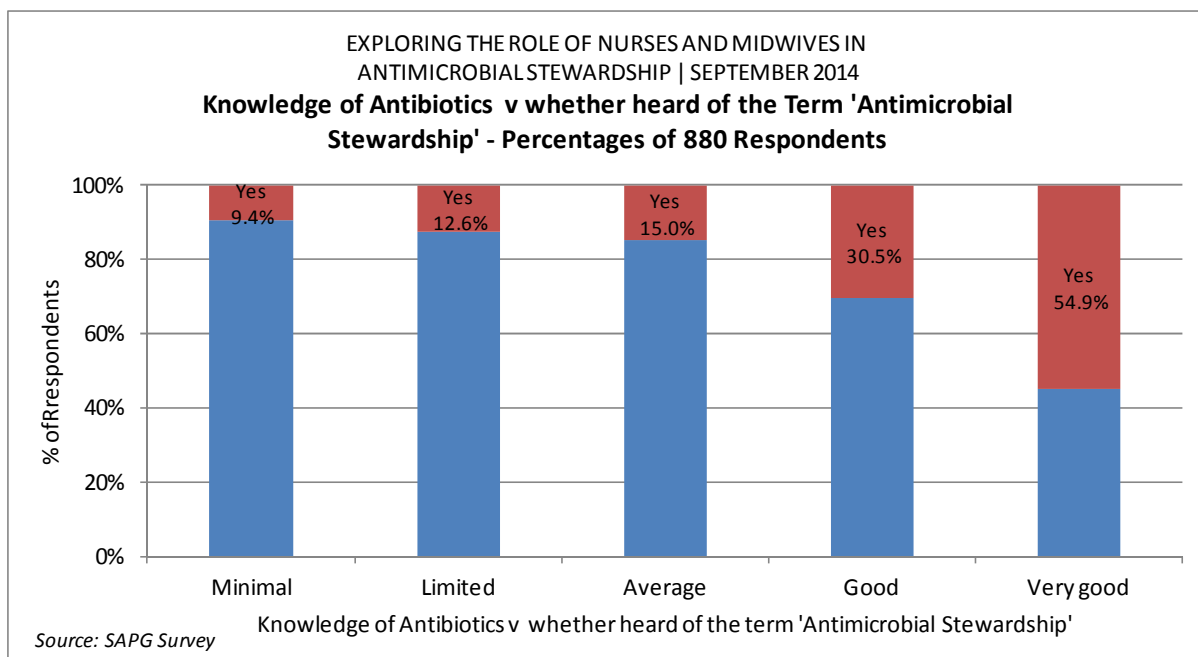
191 out of 887 (22%) respondents indicated that they had heard of the term ‘Antimicrobial Stewardship’.



When these responses were broken down by AFC band, we again see that knowledge increases with seniority.



Similarly, when the relationship between the responses to the question on knowledge of antibiotics and the term stewardship were graphed, the term 'Antimicrobial Stewardship' had been heard of more often by respondents with a better knowledge of antibiotics. However, less than one third (31%) of those who felt they had 'good' knowledge of antibiotics and just over one half (55%) of those with 'very good' knowledge had heard of the term 'Antimicrobial Stewardship'. This suggests that there is scope for some education around this area and that 'knowledge of antibiotics' may not extend to areas such as antimicrobial resistance and the implications for the wider society.



If you have heard the term “Antimicrobial Stewardship”, in your own words, what do you understand by the term?

A personal interpretation of the term ‘Antimicrobial Stewardship’ was provided by 191 (21%) of respondents. Note that the definition subsequently provided in the survey was: ‘Making the best use of antimicrobials to manage infection so as to ensure optimal outcomes and minimal harm to patients and the wider society’.

Most of the personal interpretations included the idea of ‘appropriate use of antimicrobials’ with mention often also being made of duration of treatment, best outcomes for patients and antimicrobial resistance. There was minimal mention of consequences to wider society but this was implicit in many replies.

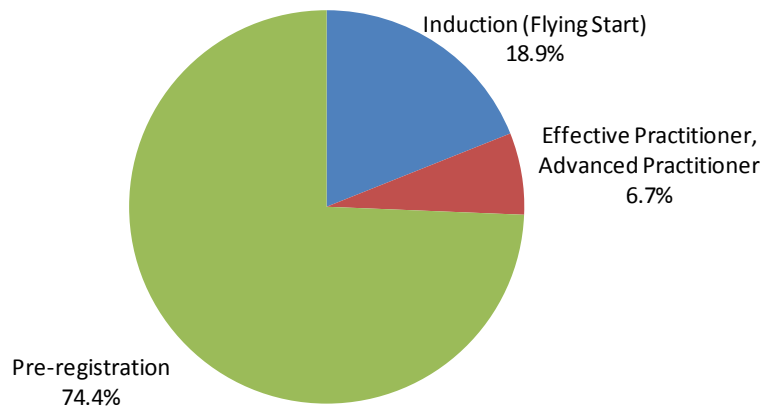
The responses ranged from the very short e.g. ‘appropriate use’ to the very detailed e.g. ‘Although antibiotic stewardship is traditionally associated with pharmacists and medical teams, it is also the role of nurses to promote proficient assessment of potential infections to rule out colonisation, other inflammatory and viral causes and to ensure antibiotics, if required, are prescribed following the available prescribing guidelines to reduce unnecessary use of antibiotics specifically associated with reduction of gut flora and higher risks of colonisation with *C Diff* / precipitation of *C Diff* tox A&B in some genotypes. Nurses can question prescriptions of second line antibiotics in patients without known allergies and with basic infections and prescribe/ remind prescribers to change IV to oral ASAP, chase up results and ensure review of antibiotics and ensure review dates are written on prescriptions by medical staff to reduce the risk of unnecessarily prolonged use of antibiotics. Nurses and medical staff should complete the available modules to increase their knowledge and improve compliance with evidence based practice.’

When within the career pathway do you think nurse and midwife education on antimicrobial stewardship should commence?

628 (70%) of respondents responded to this question with the lower response rate perhaps indicating a lack of confidence in the area of Antimicrobial Stewardship. Of the 628, most people (74%) thought that education on Antimicrobial Stewardship should commence at pre-registration.

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When in Career Pathway nurse and midwife education on Antimicrobial Stewardship should commence - Percentage of 628 Respondents



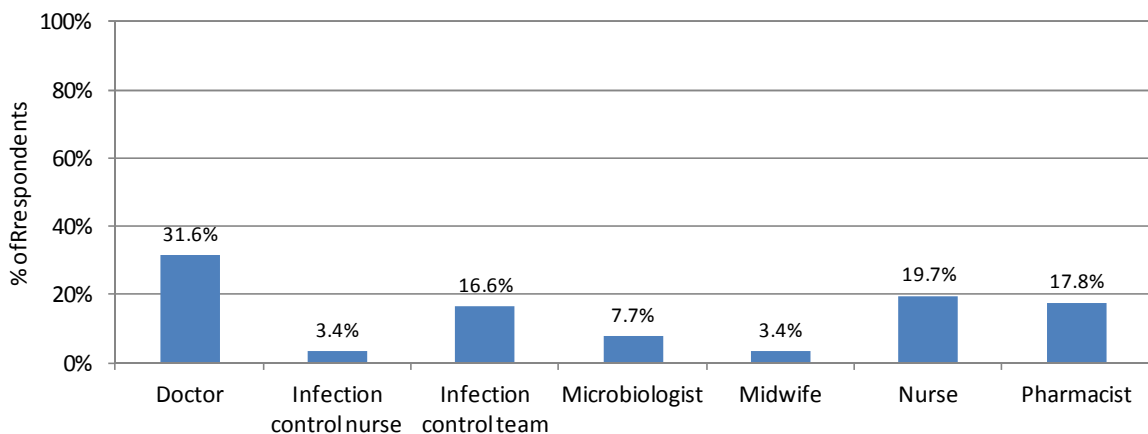
Source: SAPG Survey

Who would you expect to be involved in antimicrobial stewardship in your area on the ward?

There were 507 (59%) on-line responses to the question 'Who would you expect to be involved in antimicrobial stewardship in your area on the ward?' Most respondents (32%) expected the 'Doctor' to be involved. The next most common choice was 'Nurse' at 20% with all other possible responses from a closed list (pharmacist, infection control team, microbiologist, infection control nurse and midwife) being lower as shown below.

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Who Expected to be Involved in Antimicrobial Stewardship in Respondents Area on the Ward - Percentage of 507 Respondents



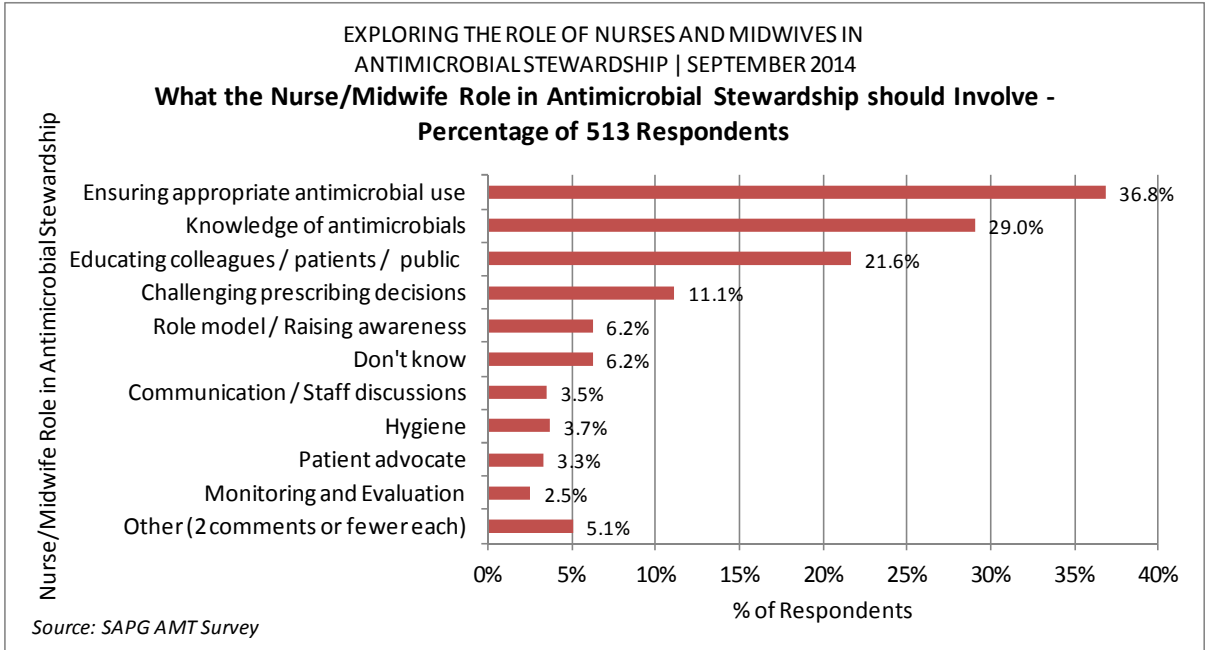
Source: SAPG Survey

However, there was space for comment after this question and over half of respondents 299 (58%) made comment. This question only allowed for one response to be chosen and many (at least 58%) used the comment space to express

the view that everyone should be involved in Antimicrobial Stewardship. This was an error in the survey set up as respondents should have been able to select more than one answer. Note that the 'walk about' results have not been included here because all these responses included several options and over half chose all relevant options. Again this was due to an error in the survey instructions.

What do you think the nurse/midwife role in antimicrobial stewardship should involve?

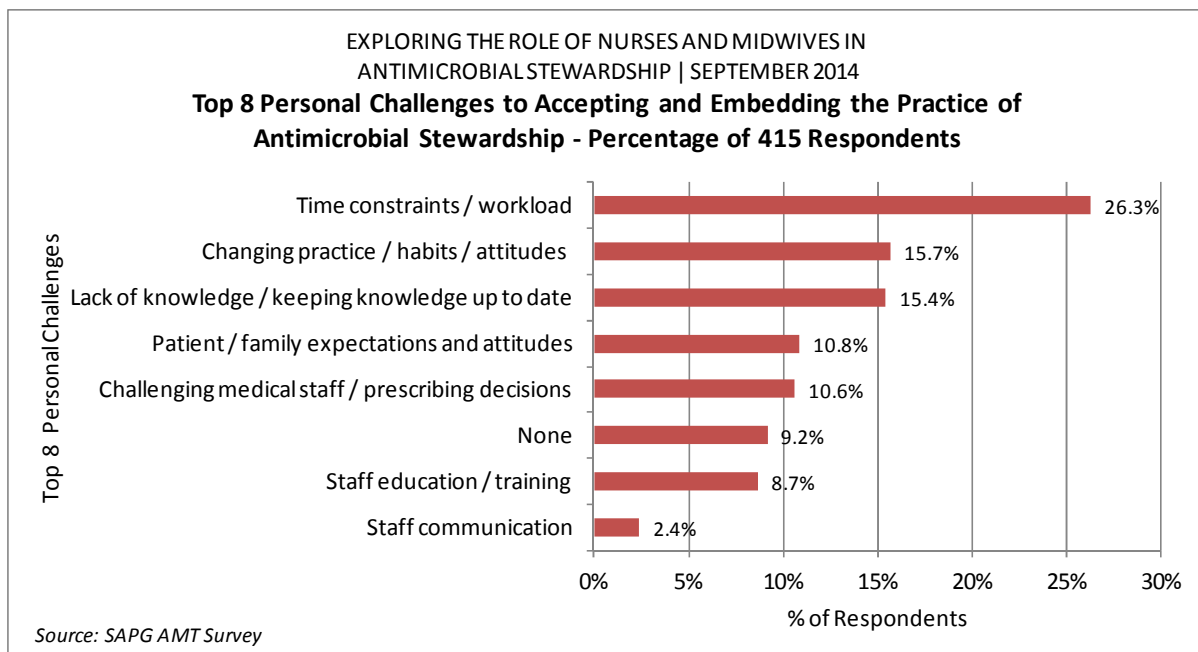
There were 513 (57%) responses to this question. A wide variety of views were expressed from 'none' to 'all aspects' with several indicating a range of ideas. 37% of responses included the view that the role should be about 'ensuring appropriate antimicrobial use' with some of these explicitly referencing duration and overuse. 29% thought the role should be about good knowledge of antimicrobials/antimicrobial guidelines and keeping this knowledge up-to-date. An education role was also seen to be important with 22% thinking the role should involve educating colleagues and/or patients about antimicrobial use. Only 2 respondents indicated that they did not think that antimicrobial stewardship should be part of a nurse's role.



Note that some responses included more than one category so results do not sum to 100%

What challenges would you anticipate personally in accepting and embedding the practice of antimicrobial stewardship?

415 (46%) respondents expressed a view on the personal challenges they anticipated in accepting and embedding the practice of antimicrobial stewardship. Several anticipated more than challenge. One quarter (26%) noted the challenge of 'Time constraints / workload' with the next two biggest challenges being 'Changing practice/habits/attitude' and 'Lack of knowledge/keeping knowledge up to date'. The top eight personal challenges are shown below.



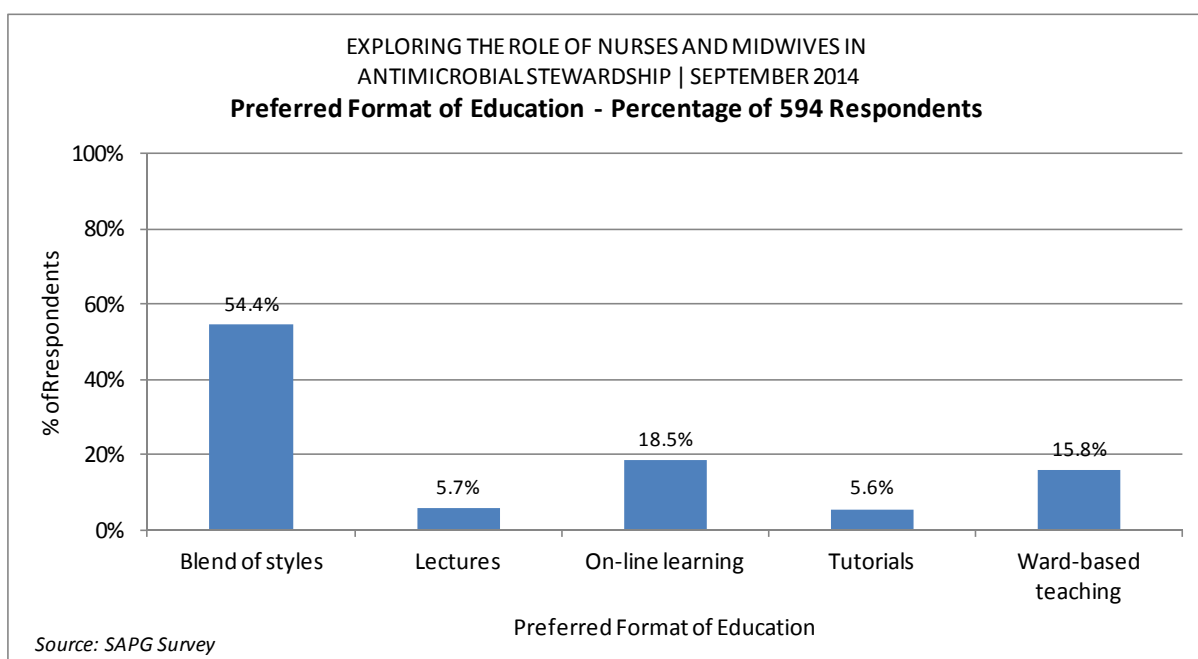
Note that some responses included more than one category so results do not sum to 100%

What type of introductory education would you need to take forward an antimicrobial stewardship role on the ward?

There were 423 (47%) responses to this question with a very wide variety of views on the type of introductory education needed. Examples are posters, on-line learning and Learn pro courses, study days, workshops, basic training, anything, everything.

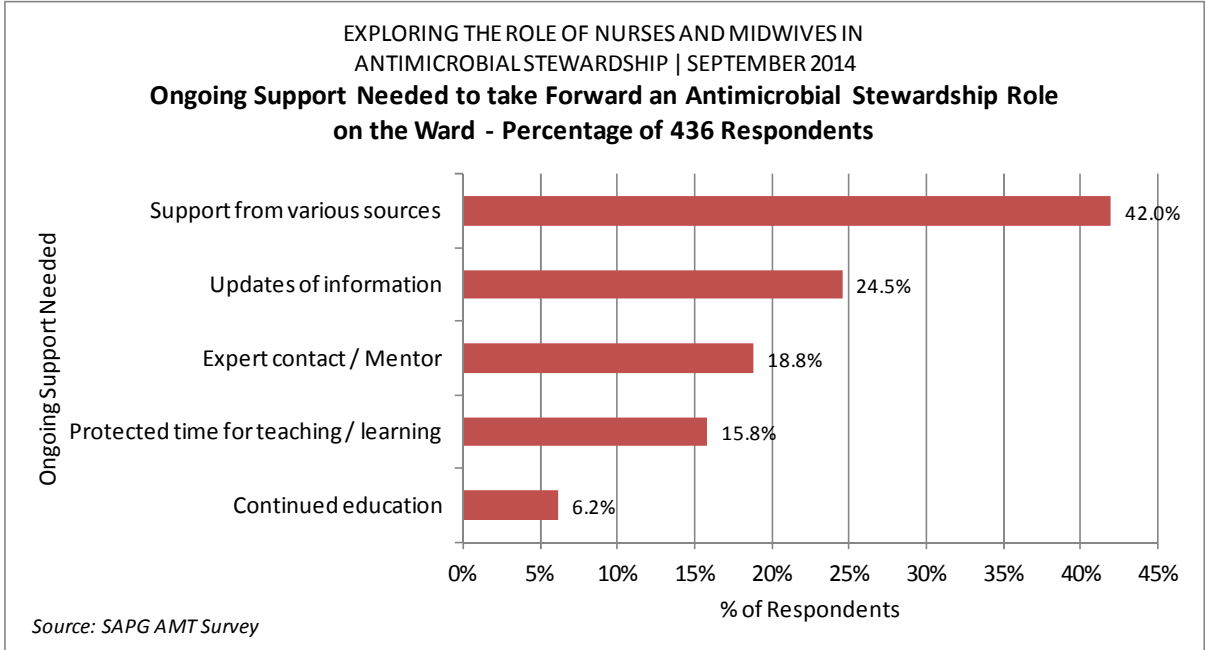
What format of education do you prefer?

The preferred format of education was reported in 594 (66%) cases. Just over one half (54%) preferred a 'Blend of styles' to include some combination of lectures, on-line learning, tutorials, ward based teaching and other face-to-face teaching.



What ongoing support would you need to take forward an antimicrobial stewardship role on the ward?

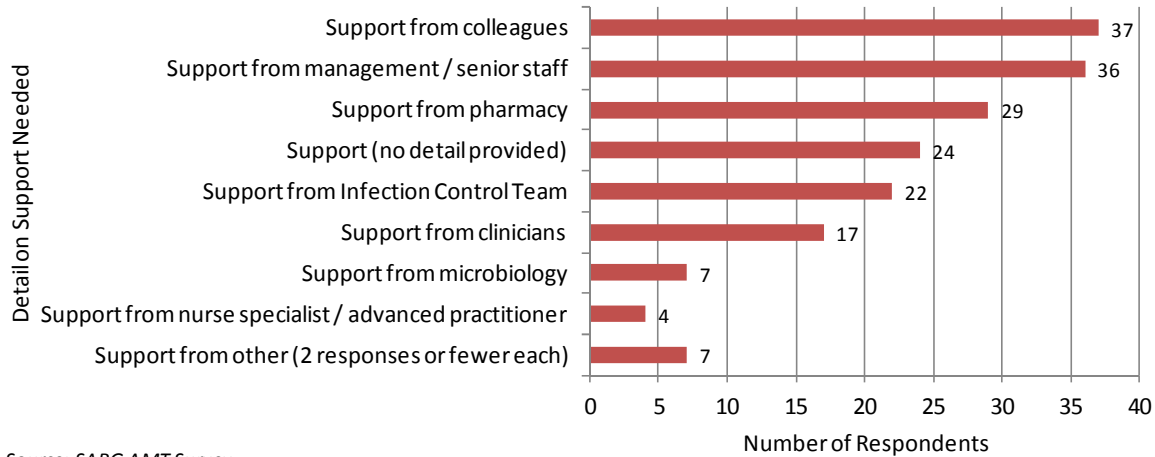
There were 436 (48%) responses indicating the types of support that would be needed to take forward an antimicrobial stewardship role on the ward. Many of these indicated that a range of support mechanisms would be needed with 183 (42%) needing ‘Support’ of some type. 25% of responses were for ‘Updates of information’ and 19% commented that an ‘Expert contact’ or ‘Mentor’ would be a useful support mechanism e.g. ‘Someone designated for advice and support’. 6% needed ongoing support in the form of ‘Continued education’.



Note that some responses included more than one category so results do not sum to 100%

Of the 183 responses indicating ‘Support’ was needed, most expressed the source this support was required from. The main source was ‘colleagues’, with the next two most commonly reported areas being ‘management / senior staff’ and ‘pharmacy’. Support was also needed from ‘ICT’ and ‘clinicians’. These results are reported below.

**Detail on Support Needed to take Forward an Antimicrobial Stewardship Role
on the Ward - Number out of 183 Respondents**



Additional comments

Finally, there was space to supply final comments and 55 respondents took the opportunity to comment. These comments are summarised below with some examples also included.

- 7 comments on Antimicrobial Stewardship being everybody's responsibility and that commitment and training were required by entire team.
- 5 comments highlighting agreement with importance of Antimicrobial Stewardship.
- 10 comments on the survey being mainly aimed at hospital setting – or indicating that the survey didn't seem aimed at them e.g. 'We have a lot of non medical prescribers so very important to target community - looking at trends and costs.'
- 3 other comments pointing out shortfalls in the survey, for example missing categories in the drop down boxes ('other' category was sometimes needed).
- 6 comments on how nurses feel they have little control over GPs who make prescribing decisions and/or GPs requiring prescribing training e.g. 'Suggestions about prescribing from us would not go down well with a number of our GPs!'
- 8 comments on time/staffing constraints and issues with being taken away from ward e.g. 'Yet again nursing staff are being taken away from the bedside. Where are our senior nurse managers/leaders of our field to support the role of the nurse with direct patient care, instead of leading us down the route of 'policing' what our medical colleagues do? I feel so let down by my own profession. This will allow the organisation to have the 'buck' stop with nurses. I know this sounds very negative and I make no apology for telling the truth, as I see this happening all the time.'
- 16 other general comments