Written evidence from the Sexual Health Improvement Programme (SHIP)

Executive summary

The evidence in this submission provides a summary of content and discussions from an open meeting of SHIP BASHH attended by ~50 experts in the field of sexual health on 21st September 2018 specifically relating to the challenge of antimicrobial resistance in sexually transmitted bacteria.

- Antimicrobial resistance threatens to undermine current and future sexually transmitted infection control strategies
- The biggest barrier to implementing new diagnostic tests to detect antimicrobial resistance in sexually transmitted infections is lack of adequate funding due to cuts to public health budgets
- The first reports of multidrug resistant *Neisseria gonorrhoeae* (including ceftriaxone resistance) make this a global priority for new drug development and new diagnostic test implementation
- High levels of azithromycin resistance in *Mycoplasma genitalium* are equally concerning
- Urgent investment is required in diagnostic testing infrastructure to respond to the challenge of antimicrobial resistance:
  - within clinics to provide rapid, high quality test results to patients
  - within local and regional laboratories to ensure we maintain and improve our surveillance systems and provide quality assurance for new test technologies (e.g. rapid point of care diagnostics and self-taken, home tests ordered online)
  - within the national reference laboratories to implement routine whole genome surveillance and integrate microbiological resistance phenotyping (using culture) with next generation sequencing technologies
- We must continue to invest in high quality prevention and health promotion including the active follow up of positive cases and contacts (partner notification) and recognise the role that this has to play in controlling the spread of antimicrobial resistance (AMR).
- Promote integrated working between sexual health services and laboratories and standardisation of STI diagnostics to address any inequalities in provision

Introduction to Sexual Health Improvement Programme

The Sexual Health Improvement Programme (SHIP) was set up as a Bristol Health Partners Health Integration Team in 2013. It brings together experts from across disciplines to improve the sexual health of people in the region and reduce sexually transmitted infections (STIs). The team supports the commissioning of evidence-based sexual health services.

Members are from a range of organisations including the University of Bristol, University of West of England, Unity Sexual Health, University Hospital Trust Bristol, Public Health England, Bristol City Council, North Somerset Council, South Gloucestershire Council and voluntary sector sexual health providers (e.g. Brigstowe, Terence Higgins Trust).

Our overall aim is to support the commissioning of evidence-based services to improve the sexual health of our population and reduce sexually transmitted infections (STIs).

A major focus for the next three years will be evaluating and developing strategies, including vaccination, for combating the development of antimicrobial resistance (AMR) in STIs.

In 2018, we agreed the following updated themes.

- Increasing uptake of HIV testing
• Improving STI testing and responding to antimicrobial resistant (AMR) infections
• Patient and public involvement in sexual health: ending stigma
• Ending domestic violence
• Reducing health inequalities and ending stigma
• Informatics and digital transformation
• Developing a national network

The HIT leadership team is made up of commissioners, academics, clinicians and public health specialists working in the field of sexual health.

• Director: Katy Turner, Senior Lecturer Infectious Disease Epidemiology, University of Bristol
• Director: Paddy Horner, Consultant Senior Lecturer, University of Bristol and GUM Consultant, University Hospitals Bristol NHS Foundation Trust
• Director: Thara Raj, Consultant in Public Health, Bristol City Council and Public Health England
• Honorary Director: Emma Harding-Esch, London School Hygiene and Tropical Medicine
• PPI lead: Jayne Meyrick, Senior Lecturer in Health Psychology, UWE
• Annette Billing, Public Health Principal, Bristol City Council

Reason for submission

On Friday 21st September 2018, we convened an open meeting in Bristol “Preparing Sexual Health Services for the Challenge of Antibiotic Resistant (AMR) bacteria”, co-hosted by SHIP (Sexual Health Improvement Programme) and BASHH (British Association of Sexual Health and HIV).

Around 50 clinicians, health professionals, PHE employees, academics, laboratory staff, industry representatives attended, mostly from the South West area, but also participants from Plymouth, Brighton, London and Cambridge and Wales.

We provide here a brief summary of key areas discussed during the meeting and highlight challenges and potential solutions for sexual health services relating to our theme Improving STI testing and responding to antimicrobial resistant (AMR) infections.

The information contained in this submission has been prepared and reviewed by Dr Katy Turner, Dr Paddy Horner and Dr Emma Harding-Esch (co-directors of SHIP) and we believe it to be an accurate representation of the expert meeting discussion. This submission does not represent any official position of BASHH (British Association of Sexual Health and HIV) or our employers, including but not limited to the University of Bristol, London School of Hygiene & Tropical Medicine, the NHS or Public Health England.

The content has been adapted and extended from a meeting summary previously circulated to attendees which will be published online on the Bristol Health Partners website (http://www.bristolhealthpartners.org.uk/health-integration-teams/sexual-health-improvement-hit/)

1) Funding

Continued cuts to funding was a key issue and compromises our ability to respond to outbreaks and maintain control of infections. Recent increases in syphilis and Neisseria gonorrhoeae (gonorrhoea) have been seen locally, mirroring national trends. In relation to antibiotic resistant organisms there is a need to fund, evaluate and implement new diagnostic tests which can detect resistance, but it is unclear where this additional funding will come from in a climate of cutbacks. Secondly, resistant infections are more expensive to treat, may result in treatment failure and further onward transmission, which both undermine control efforts and increase costs of management.
2) Surveillance

2.1

Resistance is a significant problem in *Neisseria gonorrhoeae* (gonorrhoea) and *Mycoplasma genitalium*. For gonorrhoea, the rapid acquisition of new and multiple types of resistance to antibiotics has led to the current guidelines of ceftriaxone plus azithromycin, however if ceftriaxone resistance increases there are few practical alternatives currently available. Additionally, azithromycin resistance and/or reduced susceptibility has increased, such that the “back-up” provided via dual treatment (with azithromycin) is not fully effective and may also be contributing to rising resistance to azithromycin in other sexually transmitted infections (STIs), such as *M. genitalium*.

2.2

Resistance to azithromycin appears very widespread in *M. genitalium* infections although exact estimation is challenging because diagnostic testing and resistance testing are not routine within sexual health services (https://www.bashh.org/news/news/bashh-launches-new-nice-accredited-guidelines-to-help-prevent-mycoplasma-genitalium-becoming-the-next-superbug-but-funding-cuts-may-hinder-implementation/). This hinders Public Health England’s ability to monitor trends in *M. genitalium* diagnoses. New guidelines have recently been released for the management of *M. genitalium*. (2018 BASHH UK national guideline for the management of infection with Mycoplasma genitalium. Available online at: https://www.bashhguidelines.org/media/1182/bashh-mgen-guideline-2018_draft-for-consultation.pdf.)

2.3

The use of sequencing to identify transmission networks for national surveillance purposes, as well as to inform the development of specific diagnostic tests for resistance, is critical and should not be hindered by funding cuts. There is overlap in risk factors for different STIs and we need to consider the epidemiology of all STIs (including HIV) together.

3) Treatment Guidelines

We noted that GPs work from different prescribing guidelines to genitourinary medicine (GUM) clinicians which may have implications for our ability to control antibiotic resistance. We need better methods to monitor both antibiotic resistance in STIs (including those diagnosed outside of specialist services) and antibiotic treatments prescribed, and to analyse and feedback surveillance data faster and more systematically.

4) Test quality and availability

4.1

There was some concern about availability of lower quality tests and treatments available through the internet. It is difficult for patients to distinguish test quality, whilst possible for patients to buy antibiotics online. Regulation of “paid for”, private testing services is hard to monitor and could undermine public health efforts to control resistance, especially if access to clinics becomes more difficult as budgets are further cut.

4.2

Conversely, high quality STI tests which can be ordered online, with self-taken samples at home, which are then performed in quality-assured laboratories with results managed through specialised clinics were seen as part of the solution to the challenge of reduced budgets. However, it can be difficult for patients to navigate and assess the options available.

5) Collaborative working:
We believe that through collaborative working, and sharing what does and does not work, we can make significant improvements on the current system. We recognise some of the challenges, for example new diagnostics can be complicated to implement in a timely way due to local commissioning/tendering arrangements. Whilst savings or cost-effectiveness may be achieved in the system as a whole; if initial investment comes from one budget and savings appear elsewhere in the system the business case for change is problematic. Changes can also have significant start-up opportunity costs including need for retraining or risk to jobs; and these should not be underestimated.

6) PrEP

There are opportunities and challenges of PrEP (pre-exposure prophylaxis for HIV) in the context of resistant gonorrhoea: the benefits of providing PrEP including engaging individuals in managing their own sexual health, including regular STI testing, were recognised, whilst the challenge of shaming and stigma of condom use which could hamper STI (and HIV) control efforts, was highlighted.

7) Health Promotion

Finally, although new diagnostic tests, new drugs or vaccines are all needed, we must not neglect the basics of sexual (and public) health: prevention, health promotion, condoms and active follow up of cases and their partners (partner notification). In the context of AMR, primary prevention activities which reduce the onward spread of infection together with rapid case finding will become increasingly important in controlling antimicrobial resistance (AMR) by reducing overall burden of disease and breaking chains of transmission.

8) Recommendations

The meeting was designed to provide a forum for discussing our response to antimicrobial resistance in sexual health not just identifying challenges. The following is a summary of recommendations:

i) Faster updates and dissemination of treatment guidelines (e.g. working with BASHH and general practices to ensure dissemination of current guidelines and/or using lab systems to provide up to date treatment recommendations)

ii) Improved use of data locally to inform individual treatment decisions in real time

iii) Sharing business plan templates

iv) Timely publication and dissemination of data on local service evaluations

v) Investment in implementation and evaluation of new diagnostic tests in clinical practice together with streamlined decision-making processes to support commissioning / funding of new systems

vi) Investment in national surveillance utilising routine whole genome sequencing of \textit{N. gonorrhoeae} as a priority, followed by \textit{M. genitalium}.

vii) Evaluation of patient and diagnostic pathways including transmission dynamic modelling and cost-effectiveness modelling to inform commissioning decisions

viii) Improved informatics relating to partner notification and treatment test of cure and patient follow-up

ix) Re – emphasis on primary prevention (condoms) to interrupt chains of transmission

x) Creative approaches to redesigning clinic services (e.g. Unity Sexual Health are working with their laboratory to implement faster testing, using an in-clinic machine) and increasing accessibility of quality STI tests through online services (with quality-assured tests and laboratories).

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