



UK Health
Security
Agency

STI Prioritisation Framework

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Chapter 1. Executive summary: outlining principles for prioritisation

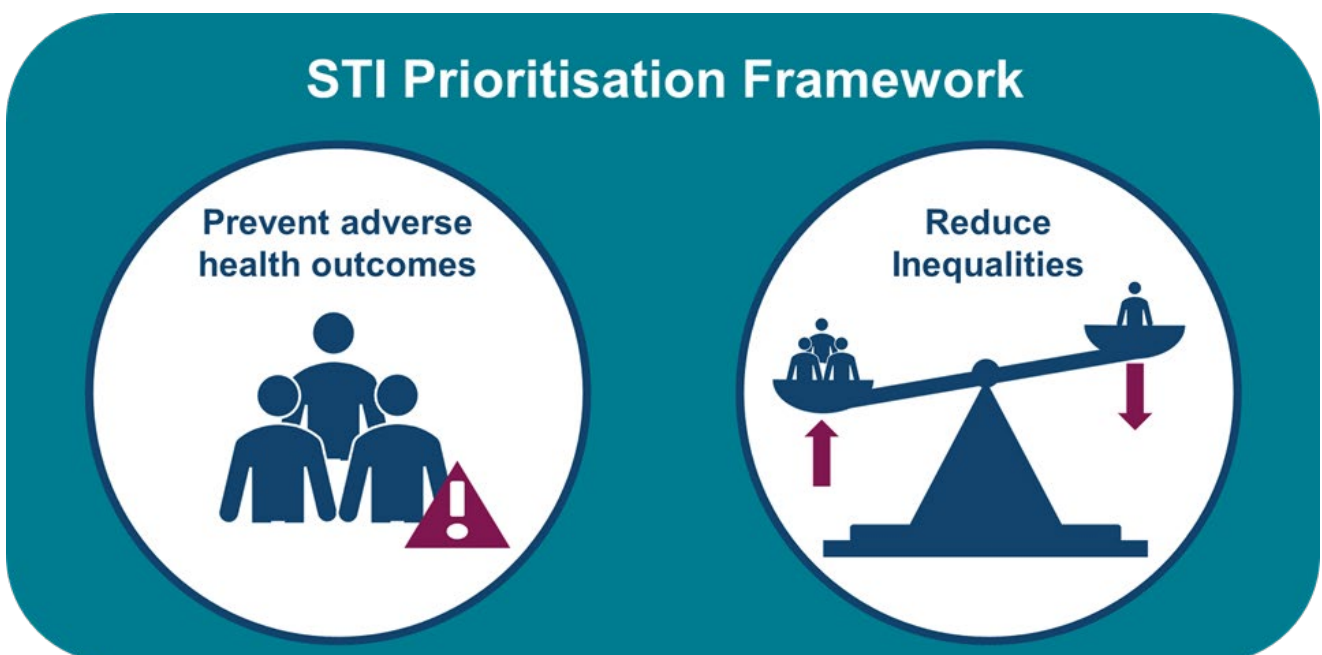
Main messages

Sexually transmitted infections (STIs) impact different groups in society unequally. Some STIs cause more severe health problems in certain groups compared to others (health inequalities), whilst some groups face greater barriers to accessing services (health inequities). This STI Prioritisation Framework shifts the focus of STI control efforts towards reducing adverse health outcomes and addressing inequalities, as visualised in [Figure 1](#).

The goal of reducing adverse health outcomes and addressing inequalities should inform prioritisation decisions to ensure that resources are focused on achieving the biggest public health impact. This may involve making some difficult choices, such as modifying target groups for interventions, or adjusting the scope of activities by starting, stopping, reducing or increasing interventions.

As described by the [Faculty of Public Health](#), any decisions made around prioritisation should be based on certain key principles: the process should be transparent and documented, benefits and disbenefits identified and assessed (including equity, equality, health gain, and cost), and relevant stakeholders engaged.

Figure 1. Vision of the STI Prioritisation Framework



Audience

This STI Prioritisation Framework, which was developed through extensive stakeholder engagement ([Appendix 1](#)), is for those responsible for sexual health service planning and delivery and provides a process to assist with making these decisions locally (based on current available evidence, considering local and national surveillance data, and supported by local intelligence). Details on where to find further resources and guidance can be found in [Appendix 2](#) and supporting information for this document can be found in [Appendix 3](#).

Guiding principles

The STI Prioritisation Framework is rooted in a public health approach and supported by a set of guiding principles which are intended to help steer priority-setting for STI prevention and control within limited resources. The guiding principles were developed through a national consensus process ([Appendix 4](#)) and should be considered alongside the required services, as set out in regulations ([The Local Authorities Regulations 2013](#)) and taking account of the [integrated sexual health service specification](#). The guiding principles are:

1. The sexual health needs of the population can only be met through working in partnership. This includes identifying or establishing local structures to enable effective collaborative working.
2. It is essential that specialist sexual health services (SHSs) have established links and arrangements with other specialties for the management of complex cases.
3. It is essential that services and interventions are co-produced with local communities, ensuring that lived experience is at the heart of local planning and decision making.
4. Services must be planned on the basis of an assessment of local need and be able to adapt to changing need and circumstances.
5. Local areas should draw on existing evidence, where available, to inform their practice.
6. Evaluation is essential to understand whether new interventions, changes in practice or service improvements have achieved their intended impact and to develop the evidence base.
7. Addressing health inequalities is central to our approach to STI control and therefore resources should be prioritised on the basis of need, with a focus on under-served populations.
8. Commissioners and providers must ensure SHSs have the capacity and skills to address safeguarding concerns in a skilled and timely manner.
9. Commissioners and providers must ensure specialist SHSs have the capacity and skills to manage complex cases and provide clinical STI expertise to non-specialist providers.
10. Primary prevention activities such as health promotion and access to condoms should not be sacrificed when resources are limited.
11. Testing and treating those with diagnosed infection is a mainstay of STI control.
12. There is no 'magic bullet': no one intervention will achieve STI control. We need to use a range of prevention, testing and treatment interventions as they are all imperfect.

Approach to prioritisation

Rationale

STI control in England has historically aimed at reducing prevalence. Thus, there has been an emphasis on prioritising interventions which maximise volume of throughput and targeting these towards populations experiencing the highest STI rates. Given finite resources, this high-volume, low-complexity prioritisation approach risks overwhelming services with activities such as testing for asymptomatic or clinically unimportant infections, leaving insufficient capacity for those with more complex needs or to support vulnerable groups experiencing health inequalities. Furthermore, the approach has done little to curb the rising STI rates seen over the past decade.

As rates of STIs continue to increase, so too will the frequency of adverse outcomes experienced, causing relatively 'rare' complications to become more common. Examples of such adverse health outcomes include infertility, adverse pregnancy outcomes, neonatal infections, systemic infections, and permanent damage to cardiovascular and neurological systems.

The nature of health harms and the impact of disparities experienced between population groups make STIs a significant and costly public health problem. There is both an effectiveness and cost effectiveness argument for refocussing STI control towards activities which prioritise reducing adverse health outcomes and inequalities. In essence this means understanding who is experiencing the greatest burden of harm and inequalities and targeting tailored interventions towards these groups.

The S.T.I. approach: Situation, Target groups, Interventions

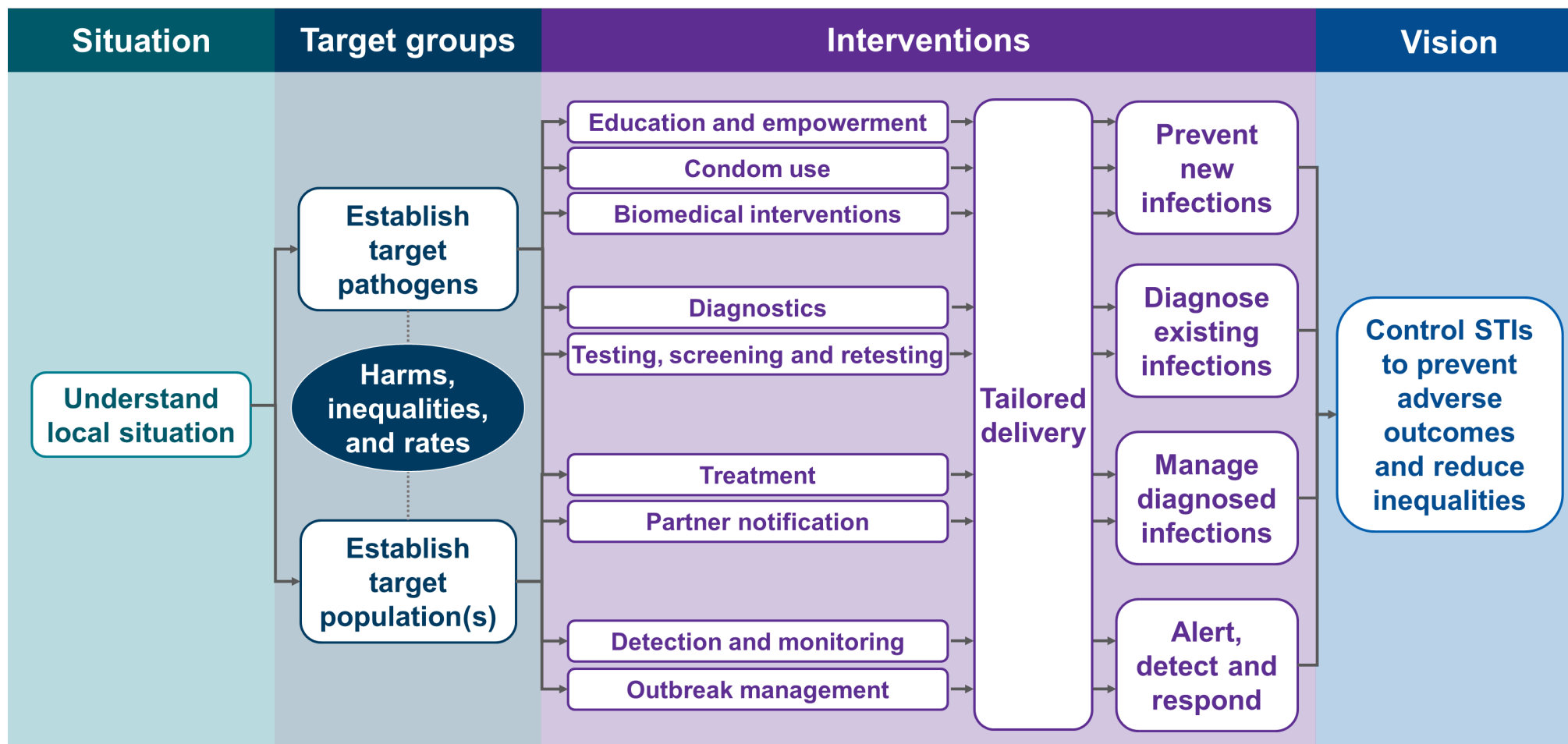
This document outlines a 3-pronged approach, designed to support the broad range of organisations responsible for any aspect of planning and delivery of SHSs with a clear framework for prioritisation. The approach draws upon principles set out in the [guideline on reducing STIs](#) by the National Institute for Health and Care Excellence (NICE) and documents published during the COVID-19 pandemic which lay out essential services and foundations of sexual health service provision: [prioritisation of sexual and reproductive health services](#) by the Association of Directors of Public Health (ADPH) and [principles for recovery of sexual health services](#) by the British Association for Sexual Health and HIV (BASHH).

To support informative and consistent evaluation of interventions described, a series of suggested measures has been compiled to support each intervention domain ([Appendix 5](#)). To monitor and evaluate the impact of STI control interventions overall, that is the combination of interventions deployed across the country, we have also developed an overarching monitoring and evaluation framework ([Appendix 6](#)). A summary of the S.T.I. steps are outlined below and illustrated in the 'Theory of Change' in [Figure 2](#).

Figure 2. Theory of Change for the STI Prioritisation Framework, outlining a three-pronged approach to achieving the vision of controlling STIs to prevent adverse health outcomes and reduce inequalities

S.T.I Prioritisation Framework

Situation . Target groups . Interventions



Situation

First consider the local situation (see [Chapter 5 Situation](#)). Ultimately, decisions around prioritisation should be guided by the local context. Services may need to be refocussed, which may involve making some difficult choices such as modifying target groups for interventions, or adjusting the scope of activities by starting, stopping, reducing or increasing interventions.

Target groups

Second, consider target groups (see [Chapter 5 Target groups](#)). When making decisions around target groups, identify the population groups and infections that should be prioritised to prevent adverse health outcomes and reduce inequalities associated with STIs. The suggested approach is to prioritise as follows:

Priority group 1

Prioritise the following groups to prevent serious harm resulting from STIs and reduce health inequalities within the community:

- individuals experiencing STI symptoms
- population groups experiencing the greatest adverse health outcomes from STIs
- population groups experiencing inequalities

Priority group 2

Include those groups experiencing the highest rates of STIs. These groups will overlap with those at greatest risk of adverse health outcomes (above) and also extend to those where the harm experienced is less severe or non-apparent:

- population groups experiencing the greatest rates of STIs

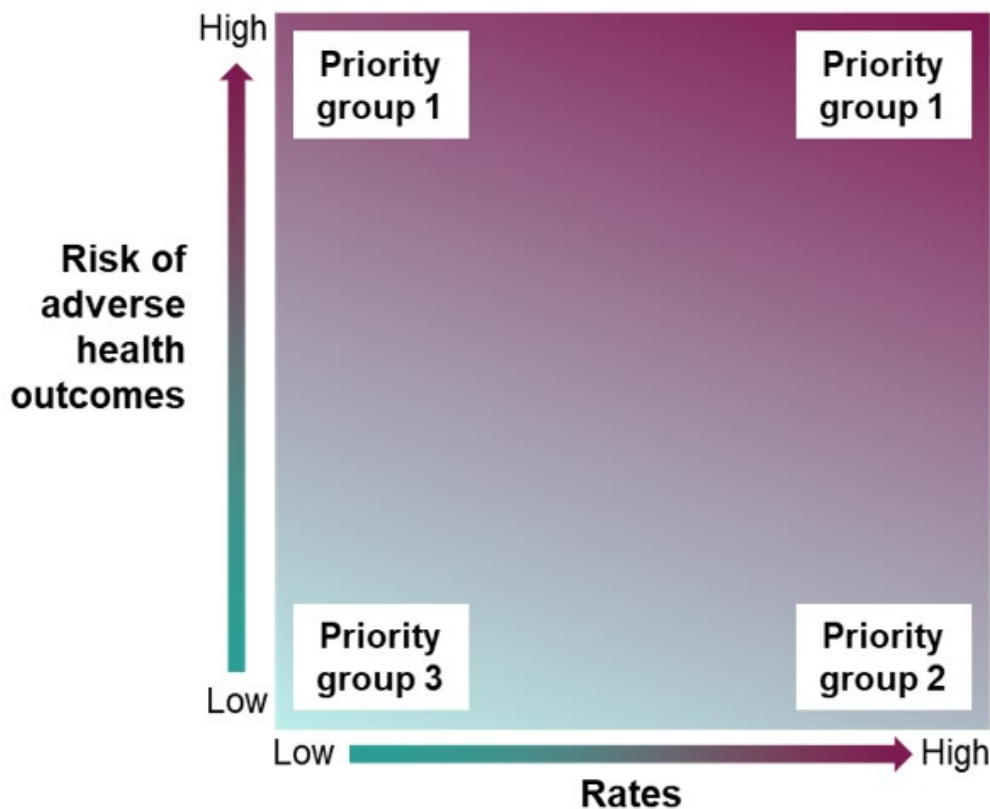
Priority group 3

Consider how remaining resources can be utilised to offer services (including prevention and awareness raising) to a broader population, emphasising the importance of open access service provision:

- general population (widespread access)

The relationship between STI rates, risk of adverse health outcomes and each priority group is visualised in [Figure 3](#).

Figure 3. Relationship between STI rates, risk of adverse health outcomes and priority groupings



Interventions

Third consider interventions (see [Chapter 5 Interventions](#)). For each target group that has been identified as a priority, identify, implement and evaluate the most appropriate suite of interventions. This decision-making process will need to be locally led but should be informed by available evidence (summarised later in this document). When deciding which interventions should be prioritised (or de-prioritised), it is important to consider 4 key evidence areas (as used in the [All Wales Prioritisation Framework](#)):

1. Does it work? Consider clinical effectiveness and health gain.
2. If yes, does it add value? Consider population and individual level impact and reduction in health inequalities.
3. If yes, is it a reasonable cost? Consider affordability and cost effectiveness.
4. If yes, is it the best way of delivering? Consider service delivery and any potential implications for other services.

Any changes to services have the potential to cause unintended consequences so it is important to review the potential implications of proposed changes using tools such as Equality Impact Assessments. An example such an approach by Derbyshire Community Health Service is available as part of a series of [case studies on reporting on health inequalities to National Health Service \(NHS\) Trust Boards](#). It will also be important to take account of learning from the COVID-19 pandemic and the impact of service changes that were necessary then ([NHS England's community health services prioritisation framework](#)).

Evaluating the impact of changes is crucial to ensure they are having the desired effect. Public Health England (PHE) published [evaluation resources](#) to support practitioners undertake evaluations of sexual health, reproductive health and human immunodeficiency virus (HIV) services.

Summary of key evidence

Key evidence for the effectiveness, impact and cost effectiveness of interventions for STI control are summarised in [Table 1](#), alongside considerations for deliverability. Further detail is available in [Chapter 4](#) and [Chapter 5](#) and in [Appendix 3](#).

Table 1. Summary of key evidence for STI interventions

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
Education and empowerment	The education and empowerment domain covers a wide variety of interventions, each of which will differ in effectiveness.	Accessible, high-quality information that empowers people to manage their own sexual health needs is essential for STI control. Interventions within this domain aim to change individual behaviours to reduce risk of STI transmission and influence health seeking behaviour.	There is limited evidence on the cost effectiveness of education and empowerment interventions. A systematic review of STI interventions in high income settings found that interventions aimed at populations at higher risk are more cost effective (1).	Variability in evidence for effectiveness and cost effectiveness indicates that education and empowerment interventions need to be carefully designed, targeted and evaluated.
Condom use	Condom effectiveness differs by STI (2, 3). Condoms are highly effective at preventing STIs that spread via sexual fluids (for example gonorrhoea, chlamydia and HIV). They also offer limited protection against STIs that spread by skin-to-skin	Consistent and correct use of condoms can significantly reduce risk of acquiring an STI by reducing transmission (4, 6).	Condom schemes are generally cost effective and may also lead to net cost savings for government by preventing unwanted pregnancy (7). Targeting those most at risk increases cost effectiveness (8).	Effectiveness and cost effectiveness of condoms will be affected by people's ability to access them easily, their ability to negotiate condom use, and whether they are used correctly or not.

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
	contact (for example syphilis, genital herpes and human papilloma- virus (HPV)) (4, 5).			
Biomedical interventions (HPV vaccination)	There is clear evidence of effectiveness from clinical trials and post implementation evaluation. More than 10 years of high coverage HPV vaccination in females aged 12 to 13 years in England has reduced the prevalence of HPV vaccine-types by over 90%, down to <1% (9), and the rate of cervical cancer by 84% (10).	HPV vaccination protects against HPV infection and subsequent health harms including cancer of the cervix and genital warts.	The cost effectiveness of the adolescent HPV vaccination programme was evidenced to the Joint Committee on Vaccination and Immunisation (JCVI) (11) at the outset of national policy recommendations: since then vaccine prices and doses required have reduced. The cost effectiveness of opportunistically offering HPV vaccination to gay, bisexual and other men who have sex with men (GBMSM) aged 45 years and under attending sexual health or HIV services was accepted by JCVI (12,13).	The programmes now deliver primarily a one-dose schedule (14). JCVI noted that with a move to a one-dose schedule it is important to enhance efforts to vaccinate anyone missed first time round and health inequalities should be closely monitored. Resources freed up by the reduction in vaccination sessions should be re-directed to interventions that strengthen programme delivery, increase coverage rates and reduce inequalities.
Biomedical interventions	Vaccination against HAV and HBV is highly effective, offering	The vaccines protect against HAV and HBV	Although evidence is limited, where it has been	NICE has recommended research into course

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
(hepatitis A virus (HAV) and hepatitis B virus (HBV) vaccination)	over 95 and 90% protection respectively (depending on schedule). Protection lasts over 10 years (potentially over 20 years) (see Green Book) (15 , 16).	transmission, infection and associated health harms including cirrhosis and liver cancer.	assessed for other programmes, use of these vaccines has been found to be cost effective (17).	completion, and recommends that all individuals receiving the vaccine are counselled on the importance of course completion (17).
Diagnostics	Test performance varies between platform, sample type, pathogen load and population prevalence. Guidance outlining best practice for different STIs is available (18).	The timely and accurate detection of STIs leads to appropriate treatment, preventing the emergence of complications, antimicrobial resistance (AMR), and onward transmission.	Different tests vary in cost effectiveness. Service models that allow more rapid turnaround times, with same day results, are feasible and have been shown to be cost effective in some settings (19 to 21).	In order to be most effective, ensure that the best test is used (accurate), in the right infections and populations (appropriate) and at the right time (timely).
Testing, screening and retesting	Testing: testing and treatment of those with symptoms is a key principle of infectious disease control. An example of where targeted testing is currently recommended is the Syphilis action plan : focus on more regular testing of those at higher risk rather than broadening screening.	Testing and screening allows detection of STIs which enables initiation of treatment to prevent subsequent health harm and onward transmission. Further evidence is needed to understand the effectiveness of frequent testing for management of asymptomatic STIs	Evidence is limited and subject to substantial uncertainty but testing and screening for STIs is generally cost effective if interventions are sufficiently targeted to higher-risk populations (1 , 25). There is some evidence that remote self-sampling could be more cost effective than	Testing and screening should be targeted towards the right populations, using the right methods at the right frequency. Approaches should focus on reducing time to results and be coupled with partner notification (PN) and good linkage to care to reduce time to treatment.

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
	<p>Screening: there is a lack of evidence that widespread screening (asymptomatic testing) reduces STI prevalence and harms. Available evidence supports a pathogen and population specific approach (22). An example of where targeted screening is currently recommended is the National Chlamydia Screening Programme (NCSP): following a review of the evidence and subsequent policy recommendations, the NCSP changed in 2021 to focus on reducing harms from untreated chlamydia, which mainly occur in women (23).</p>	<p>(chlamydia and gonorrhoea) in certain population groups (for example GBMSM), and its impact on prevalence and harm reduction (22, 24).</p>	<p>face-to-face testing, but this is highly sensitive to assumptions about variables including return rates and positivity rates in the tested population (25 to 27).</p>	<p>Consideration should be given to the medium of delivery (for example online versus in-person) so as not to drive inequalities. The antenatal infectious diseases screening programme universally screens pregnant women for HIV, HBV and syphilis.</p>
Treatment	<p>Treatment in line with clinical guidelines is effective at curing or modifying infection (28). Effectiveness of preventing subsequent harm will vary depending on the specific</p>	<p>Multiple STIs are curable with the right medication, and those that are not curable can often be treated to have less severe symptoms or cause less</p>	<p>STI treatment is rarely assessed in isolation from testing but is widely recognised to be very cost effective (31). Most bacterial STIs can be</p>	<p>Effectiveness, particularly in relation to preventing subsequent health harm, will vary depending on how early the infection is diagnosed and treated.</p>

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
	infection and how early it is detected. Treatment of some bacterial STIs including gonorrhoea, <i>Mycoplasma genitalium</i> and <i>Shigella</i> is threatened by increases in AMR (28, 29).	harm (30). Effective and timely treatment reduces the risk of onward transmission and re-infection. If left untreated, STIs can lead to serious health complications.	treated with affordable antibiotics, but if untreated can go on to cause severe and expensive complications. For example, treatment of one individual with syphilis costs around £370 (32) whereas the lifetime costs of tertiary or neurosyphilis are around £40,000 as demonstrated in the return on investment tool .	Positive cases of STIs should be treated as early as possible in order to reduce onwards transmission; the risk of complications; and associated healthcare costs and productivity losses (1).
Partner notification (PN) and management	PN is an effective way of finding people at high risk of having an STI, with test positivity being consistently higher amongst partners compared to the population screened. For example, chlamydia positivity amongst contactable partners has been shown to be between 30 and 75% (33 to 36).	Currently most PN in SHSs is conducted to achieve individual level gain by preventing re-infection and subsequent health consequences. PN may also be used to achieve population level gain by reducing onward transmission; further consideration is needed as to how PN is conducted and prioritised to enable this.	Evidence is limited, but studies indicate PN could be cost effective in comparison to usual care (37); and cost effective compared to expanding screening coverage (38).	Partner type and method of PN delivery will impact effectiveness and cost effectiveness as highlighted in the LUSTRUM study. Accelerated PN has been shown to lead to higher rates of partner treatment than routine PN (39).

There are a number of emerging interventions for STI control currently under consideration. Key evidence for the effectiveness, impact and cost effectiveness of these potential future interventions for STI control are summarised in Table 2, alongside considerations for deliverability.

Table 2. Summary of key evidence for potential future STI interventions

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
Biomedical interventions (4CMenB vaccination)	Based on real world studies, the 4CMenB vaccine has an estimated effectiveness of 33% to 47% against gonorrhoea (40).	Vaccinated individuals could expect to have some reduction in their own risk of contracting gonorrhoea, however the main benefit of a vaccination programme is expected to be at a community level with a significant reduction in the number of cases overall (41).	It is cost effective, potentially cost saving and recommended by JCVI to provide the 4CMenB vaccination to those who are at greatest risk of gonorrhoea infection (41). Vaccinating those with a confirmed gonorrhoea diagnosis would produce an estimated £2.2 million cost savings over 10 years (42).	Communicating the benefits of 4CMenB vaccine for gonorrhoea prevention needs careful consideration given the main benefits are expected to be at community level. The vaccine is licensed to protect against meningococcal B disease, with protection against gonorrhoea an additional, but unlicensed, benefit.
Biomedical interventions (Mpox vaccination)	In people considered at high risk, the mpox vaccine has an estimated effectiveness of 78% from a single dose (43).	Modelling of the impact of vaccinating GBMSM at higher risk of exposure identified that pre-emptive mpox vaccination was the most effective strategy. While a pre-emptive programme could prevent	Vaccination for GBMSM attending SHSs with markers of high risk is expected to be not only cost effective but cost saving in comparison to the costs of a public health response to an mpox outbreak. Modelling	Whilst 2 doses of vaccine are recommended, real world evidence of effectiveness shows a modest increase to around 82% for 2 doses. As a single dose provides high levels of protection, offering

Intervention domain	Does it work? (effectiveness)	Does it add value? (impact)	Is it a reasonable cost? (cost effectiveness)	Any other considerations?
		outbreaks altogether, a reactive programme could still reduce infections to a low level (44, 45).	found there was little public health benefit to vaccinating a broader population of GBMSM (45).	a dose to unvaccinated eligible GBMSM is a higher priority than completing courses in those who have had a single dose (see Green Book).
Biomedical interventions (doxycycline post-exposure prophylaxis (dPEP), also referred to as doxyPEP)	Three trials of dPEP in GBMSM and transgender women demonstrated efficacy in preventing certain bacterial STIs. There is clear evidence for efficacy in chlamydia (70 to 80% reduction) and syphilis (73 to 87% reduction), with a lesser (33 to 57% reduction) or no effect in gonorrhoea which is likely impacted by tetracycline resistance (46 to 48).	Evidence following real-world implementation of dPEP in San Francisco has shown that in the first year of implementation, 20% of GBMSM and transgender women attending SHSs initiated dPEP with a decline of 50% in early syphilis and 51% in chlamydia diagnosis (49). However real-world impact in the UK remains to be shown.	Work to provide evidence on cost effectiveness is in progress by the UK Health Security Agency (UKHSA).	There may be benefits of introducing dPEP over and above the anticipated reduction in syphilis rates, including improved quality of life for dPEP users (50), and reduced need for appointments and empirical treatment for contacts of chlamydia. However, any potential impact on AMR in STI and non-STI organisms needs to be monitored.

Consensus on prioritisation of interventions for population groups

Building national consensus

Decisions around prioritisation are multi-factorial and different interventions may need to be prioritised (or deprioritised) for different populations. At the beginning of 2024, UKHSA carried out a modified Delphi process to establish national consensus between expert stakeholders on how existing and emerging STI interventions should be prioritised for specific population groups in order to reduce harms and inequalities from STIs.

The Delphi methodology is a technique which is commonly used to identify and establish areas of agreement amongst experts on a specific topic; especially where there are gaps in evidence or complex trade-offs. While all of the interventions outlined in the STI Prioritisation Framework are important and have an evidence base, this modified Delphi process sought to build consensus based on the national picture on where to prioritise efforts within finite resources, with a focus on populations experiencing the highest rates of STIs and those at a higher risk of harm or facing specific challenges accessing services or support. More information about the modified Delphi can be found in [Appendix 4](#).

Priority-setting for different populations

The results of the Delphi consensus process showed clear areas of consensus as well as identifying specific populations and interventions where decisions around prioritisation of different STI interventions was more complex. Consensus was reached if at least 70% of experts participating in the Delphi agreed that an intervention was high priority, medium priority, or low priority for a particular population group.

Interventions such as improving time to treatment, enabling symptomatic testing and ensuring effective and appropriate PN were consistently identified as a high priority across the majority of population groups. Meanwhile, interventions on asymptomatic STI testing and managing dPEP for bacterial STI prevention were identified as high priority for specific populations but low or medium priority for others.

Experts reached consensus on multiple high priority interventions for certain populations including GBMSM, sex workers and trans and gender-diverse people, indicating that a suite of interventions may be appropriate to best meet the needs of these groups. For other populations, consensus was reached on a smaller number of high priority interventions. Little or no consensus was reached on interventions for people with physical disabilities, people with learning disabilities and people with drug or alcohol dependence.

Across most population groups, experts were more likely to reach consensus on high priority interventions than medium- or low priority interventions. The only exception to this was the

general population, where experts were more likely to indicate that interventions were low or medium priority. There were clear differences in the prioritisation of different interventions across population groups, for example the interventions prioritised for young men were different to those prioritised for young women.

Overall, experts were able to build a higher level of consensus around the prioritisation of interventions for groups experiencing the highest rates of STIs. For other populations, particularly those known to experience challenges accessing services or support, expert opinion was more divided and there were lower levels of consensus around both high and low priority interventions, suggesting that more focused work is needed to understand and address STI prevention and control in these populations. Finally, there was acknowledgement by experts of the intersectionality between these different population groups and a need to consider how best to tailor interventions to meet the needs of individuals experiencing multiple disadvantages or risk factors.

The results of the Delphi consensus process are visualised in Figure 4 below and further details on the methodology and results can be found in [Appendix 4](#).

Figure 4. Prioritisation matrix based on expert consensus built in modified Delphi consensus process



Note 1: in line with current and forthcoming recommendations.

Note 2: white dot indicates that consensus (defined as over 70%) or majority expert opinion (defined as over 50%) on the level of prioritisation for this intervention and population was not reached during the modified Delphi process.

Summary

This chapter has provided an overview of the purpose of this document and highlighted goals, key principles and available evidence that should underpin prioritisation decisions when planning and delivering SHSs. Ultimately, prioritisation decisions also need to be informed by local intelligence. The following content provides background information and a process to assist with making these decisions locally.

Chapter 2. The scale of the issue: current picture of STIs

Burden of STIs

Annual data on national, regional and local trends in STI diagnoses are published as Official Statistics by the UKHSA using [STIs annual data tables and annual report](#) as well as updates to the local level data within the [Sexual and Reproductive Health Profiles](#). In 2023, there was a total of 401,800 diagnosis of new STIs made at SHSs in England, including:

- chlamydia (194,970, 48.5% of all new STI diagnoses)
- gonorrhoea (85,223, 21.2%)
- first episode genital herpes (27,1670, 6.8%)
- first episode genital warts (26,133, 6.5%)
- infectious syphilis (9,513, 2.4%)

The remaining 58,794 comprised new diagnoses of other viral, bacterial, fungal and parasitic infections mainly acquired through sexual contact, as defined in the [STIs annual data tables and annual report](#).

The proportions of new diagnosis of the top 10 STIs in England in 2023 are visualised in [Figure 5](#). The figure includes chlamydia, gonorrhoea, genital warts, genital herpes, non-specific genital infection, syphilis (primary, secondary and early latent), trichomoniasis, *Mycoplasma genitalium*, *Molluscum contagiosum* and pubic lice or skin mites.

Figure 5. Proportion of new diagnosis of the top 10 STIs reported among England residents accessing SHSs, 2023



Source: Data extracted from [STIs annual data tables 2023: changing STI trends](#)

Over the past decade there has been an increasing trend in bacterial STIs, as visualised in [Figure 6](#) (see [STIs annual data tables and annual report](#)). Between 2015 and 2019, there was an overall 7% increase in the total number of new STI diagnoses in England. Notable changes during this period include:

- 72% increase in gonorrhoea
- 51% increase in infectious syphilis
- 14% increase in chlamydia
- 2% increase in genital herpes

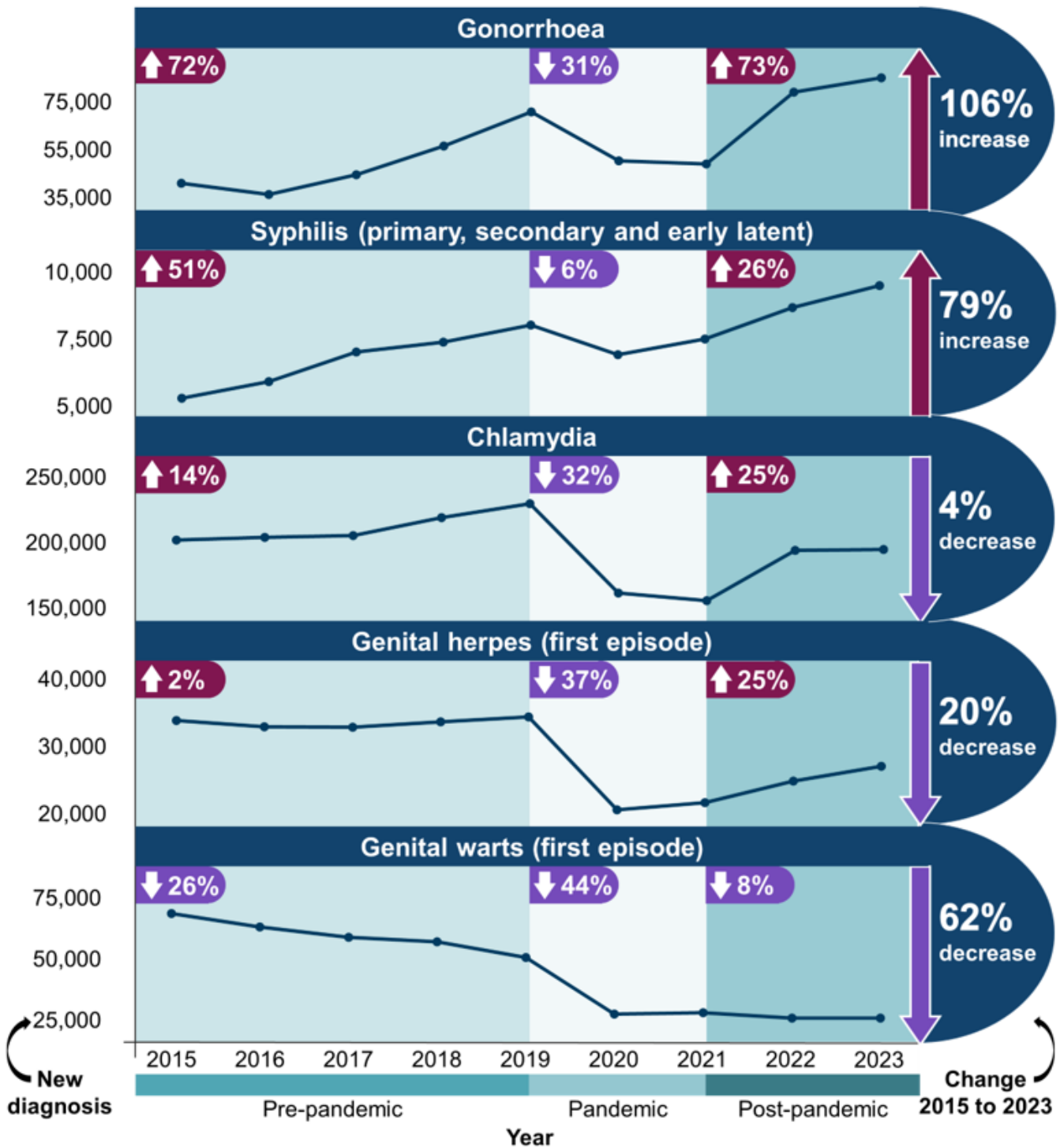
The only STI that showed a significant reduction was genital warts, which decreased by 26% following the successful implementation of the HPV vaccination.

Diagnoses of STIs declined temporarily during the first 2 years of the COVID-19 pandemic (32% decrease) but most have subsequently resumed their previous upward trajectory. This includes a 25% increase in overall new STI diagnoses in 2022 and a further increase of 5% in 2023, though these overall numbers have not yet reached pre-pandemic levels.

Recent increases in the total numbers of new STIs were largely due to a rise in the diagnosis of gonorrhoea, infectious syphilis (primary, secondary, and early latent stages), chlamydia, and genital herpes. Diagnoses of first episode genital warts have decreased, continuing the decline seen over the past decade.

In 2023, the number of gonorrhoea diagnoses reached the highest reported since records began in 1918. Syphilis is following a similar trajectory, with diagnoses in 2023 at their highest since the 1940s. In line with the increasing trend over the past decade diagnoses of both gonorrhoea and syphilis exceeded the high levels reported in 2019 (before the COVID-19 pandemic).

Figure 6. Number of new diagnosis of gonorrhoea, syphilis (primary, secondary, and early latent), chlamydia, genital herpes and genital warts reported among England residents accessing SHSs, 2015 to 2023



Source: Data extracted from [STIs annual data tables 2023](#).

The percentage change for each STI during the pre-pandemic, pandemic and post-pandemic is indicated by the flag in the top left corner of each period. The overall percentage change for each STI between 2015 and 2023 is indicated by the blue semi-circles to the right of the graphs.

Population groups experiencing the highest STI rates

The burden of STIs is not experienced equally across the population. Rates of new STI diagnosis consistently remain highest within certain population groups, namely:

- young heterosexuals aged 15 to 24 years
- black ethnic populations
- GBMSM
- people residing in the most deprived areas

[Figure 7](#) outlines the proportion of new diagnosis for selected STIs by population characteristic in 2023. STIs may also particularly affect other socially disadvantaged or marginalised groups, who already experience poor health outcomes (often referred to as inclusion health groups) such as:

- trans and gender diverse people
- people experiencing homelessness
- people with drug and alcohol dependence
- people in contact with the health and justice system
- sex workers
- vulnerable migrants, Gypsy, Roma and Traveller communities
- victims of modern slavery

It is important to recognise that population groups are not homogeneous and there will be wide variation in sexual behaviour and therefore risk within groups. Furthermore, population characteristics often intersect and interact in complex ways, creating unique scenarios for individuals. This concept is known as intersectionality, and it sheds light on how various aspects of an individual's identity, such as their ethnicity, gender, socioeconomic status, sexual orientation, and more, can collectively shape their experiences and outcomes.

Intersectionality helps us understand how these multiple layers of identity, in addition to biological characteristics influence an individual's risk, access to healthcare, stigma, and overall experience with STIs. For instance, an intersection in the data might show that younger black women, residing in the least deprived areas or younger GBMSM living in rural communities, face unique challenges and higher risks of contracting STIs.

Both heterogeneity and intersectionality underscore the importance of considering the diverse socio-demographic factors and their intersections, and the importance of co-designing targeted interventions and public health strategies at the local level to effectively combat the spread of STIs.

A [variation in outcomes toolkit](#) was developed by PHE to support local areas to understand where variation in sexual and reproductive health occurs and inform ways to target and reduce these inequalities and improve outcomes.

Young people aged 15 to 24 years

While new STI diagnosis rates have increased across all age groups over the past decade, young people aged 15 to 24 years are disproportionately affected. For example, the [STIs annual data tables and annual report](#) shows that whilst those aged 15 to 24 years made up 12% of the population they account for over a third of all gonorrhoea and over half of chlamydia diagnoses each year.

These higher rates of STIs are attributed to higher prevalence of infections and higher rates of partner change in this age group. Young women may be more likely to be diagnosed with an STI than their male counterparts due to disassortative sexual mixing by age and gender (having older male partners). Furthermore, a higher proportion of young women are screened for chlamydia, the most commonly diagnosed STI, through the [NCSP](#) which, since 2021, specifically targets women of this age group.

Gay, bisexual and other men who have sex with men (GBMSM)

Rates of bacterial STIs are consistently high among GBMSM, with increases observed over the past decade. An estimated 2.6% of men are GBMSM ([51](#)), in 2023 69% of infectious syphilis, 48% of gonorrhoea and 10% of chlamydia diagnoses were made in this group.

There have also been marked increases in STIs that are seen predominantly in GBMSM such as lymphogranuloma venereum (LGV) with 1,360 diagnoses in 2023, as well as an increase in cases of shigellosis (with over 2,000 reported cases presumed sexually transmitted among GBMSM in 2023) with several multi-country outbreaks of extensively drug-resistant strains. Following the emergence of the international outbreak of mpox in May 2022, which involved mainly, but not exclusively, GBMSM, new diagnoses have continued to occur regularly at a low level. There were 3,555 diagnoses of mpox reported in England in 2022, and 137 in 2023.

The sustained high level of STI diagnoses in GBMSM is attributed to behavioural factors, including more sexual partners and condomless anal intercourse, and, for some, chemsex and group sex facilitated by geosocial networking applications. Additionally, a high incidence of STIs among some GBMSM using HIV Pre-Exposure Prophylaxis (PrEP) has been observed in studies in the USA, Canada and Australia ([52 to 54](#)).

Findings from the PrEP Impact Trial in England showed similar results, with a high incidence of bacterial STIs among participants, concentrated within a subgroup of PrEP users ([55](#)). In total, 18,607 bacterial STIs were recorded amongst 21,358 participants enrolled in the trial before 29 February 2020. The majority of these diagnoses were amongst a subgroup of GBMSM participants. Specifically, 4,343 (24.4%) GBMSM were diagnosed with 2 or more STIs,

accounting for 14,800 (79.5%) of all 18,607 diagnoses. Bacterial STI incidence in GBMSM trial participants was lowest in individuals aged 40 years or older. Incidence was highest in those:

- born in Europe
- of black African, black Caribbean, or people from mixed ethnic groups
- resident in London
- living in more deprived areas
- who had a bacterial STI diagnosis in the year before enrolment
- who began a daily PrEP regimen at enrolment

Ethnicity

There is marked variation in STI diagnoses between different ethnic groups. People of any black ethnicity consistently experience the highest rates of STIs compared with people of other ethnic groups, with rates over the past 5 years being around 3 times higher than in people of any white ethnicity. For example, in 2023 people of any black ethnicity had a total of 40,275 diagnoses of new STIs. Whilst this number represents just 10% of the total number of new STI diagnoses, the rate of diagnosis reached 1,691 per 100,000 population compared with 542 per 100,000 in people of any white ethnicity.

There is also considerable variation in diagnostic rates between different black ethnic groups attending SHSs, with people of black Caribbean background having some of the highest diagnostic rates (2,478 per 100,000 population in 2023) and those of black African background having relatively lower rates (1,366 per 100,000 population in 2023).

It has been difficult to pinpoint the precise factors that contribute to these disparities in STI diagnostic rates amongst different ethnic groups, however it is likely that they are a result of a complex interplay between broader structural determinants of health and their influence on individual-level and sexual network factors.

A longitudinal study of sexual health clinic attendees in England examined differences in predictors of incident STI diagnosis across different ethnic groups ([56](#)).

The study identified that risk of STIs was associated with previous STI diagnosis, positive attitudes to, and engaging in, concurrent partnerships and greater partner numbers among participants of black Caribbean ethnicity, but that this was also the case for participants of white British and Irish ethnicity. Greater risk of STIs was associated with younger age for participants of black Caribbean ethnicity only, but ultimately there were no clinical, attitudinal or behavioural predictors of increased risk unique to black Caribbean participants in adjusted analyses.

Geographical trends and socio-economic deprivation

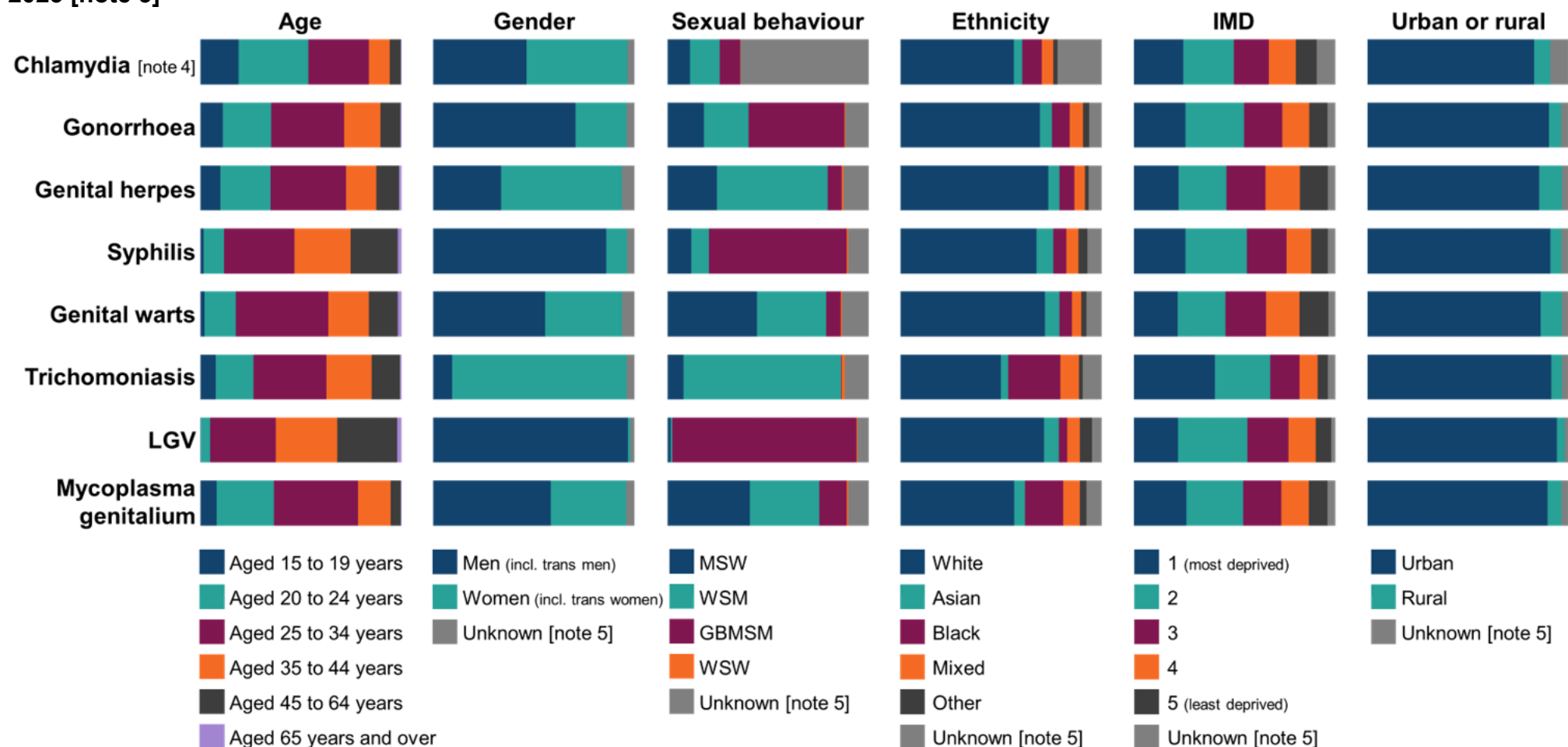
Substantial inter- and intra-regional variation is evident in the STI trends within England. For example, the rate of all new STI diagnosis in London has consistently been more than 2 times

higher than any other region in England over the past 5 years. The rate of STIs in London in 2023 was 1,448 per 100,000 population, over double that of any other region.

STIs also pose health challenges in rural and coastal communities, where people may face barriers to accessing SHSs. Such barriers may include service availability, service location and transport options, knowing healthcare staff personally and fear of social stigma. These factors hinder timely testing and treatment, leading to higher infection rates, which may be difficult to capture in surveillance data due to the lower levels of testing.

Residential area-level deprivation, is defined using the [Index of Multiple Deprivation](#) (IMD), which is a relative measure of deprivation between small areas in England. Diagnosis rates of STIs are consistently highest among people living in those areas with an IMD score of 1 (ranked as the most deprived areas of England). There are several reasons why this may be the case, with IMD score reflecting access to healthcare and education in addition to overall socioeconomic conditions. Socioeconomic conditions are also likely to have a role in the ethnic differences in STI diagnostic rates described above, as detailed previously ([57](#)).

Figure 7. Proportion of new diagnosis for selected STIs by population characteristic among England residents accessing SHSs, 2023 [note 3]



Source: Unless specified data extracted from [STIs annual data tables 2023](#). Data for all pathogens related to IMD and urban or rural and additional data for trichomoniasis, LGV and *Mycoplasma genitalium* related to age and ethnicity was completed as a bespoke analysis from routine returns to the GUMCAD STI Surveillance System and is not part of annual data tables.

Note 3: Different STIs may have different testing guidelines which may affect the distribution of new diagnosis across different population characteristics.

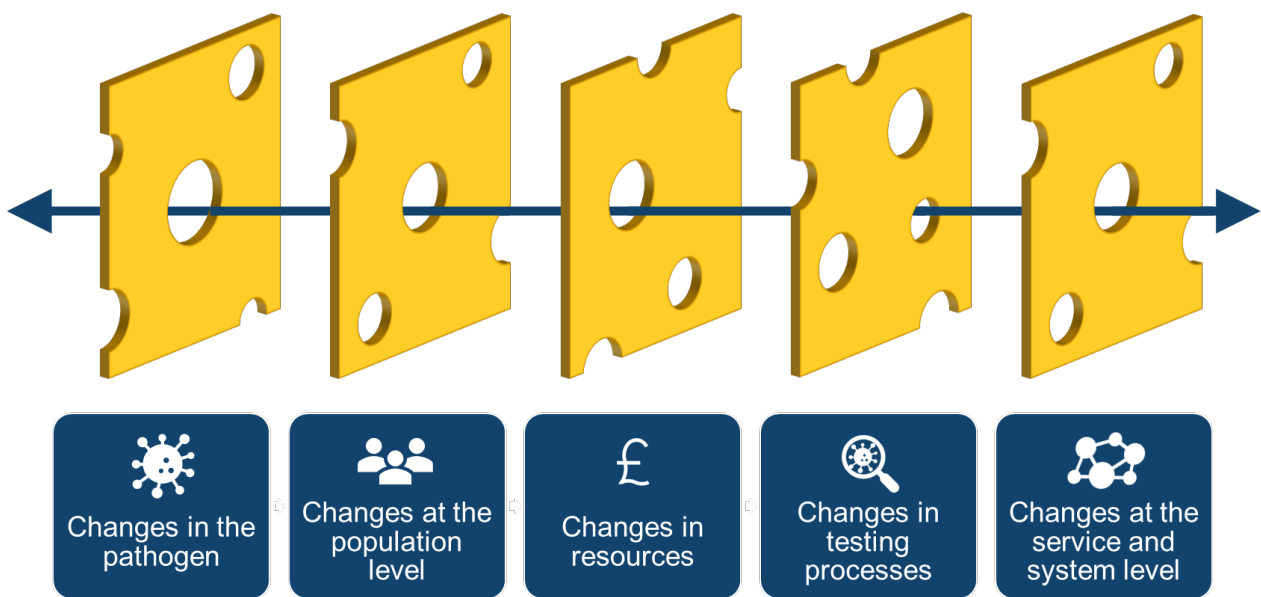
Note 4: The large proportion of unknown information for chlamydia in relation to sexual behaviour is because data for chlamydia is sourced from both GUMCAD STI and CTAD Chlamydia Surveillance Systems. Data on sexual orientation is available for GUMCAD data only, as CTAD does not collect this information.

Note 5: The 'Unknown' category can include not answered or not specified.

Chapter 3. Why this is happening: factors influencing the current situation with STIs

STI rates in England are driven by a complex interplay of factors spanning behavioural, economic, and technological shifts within society. In addition, there has been a series of system shocks from the COVID-19 response followed by the mpox outbreak of 2022 which affected services' ability to deliver routine care, while the demand for sexual health care has continued to increase. [Figure 8](#) visualises the different factors associated with increasing STI trends.

Figure 8. Swiss cheese model depicting the factors associated with increasing STI rates in England



Changes at the population level

Shifts in sexual behaviour, demographics, and cultural attitudes toward sexual behavioural and sexual health within the population all impact on the prevalence of STIs. These changes can involve shifts in sexual practices, partnership dynamics, and sexual health awareness.

In recent years, there has been a decrease in condom use, likely a consequence of the success of interventions such as HIV combination prevention (including PrEP) and use of long-acting reversible contraception to prevent pregnancy. Further examples are changes to social norms such as increased diversity of sexual practices (including those with higher associated risk of STI transmission), increases in gender and sexual fluidity and an increase in use of geosocial networking applications to meet sexual partners.

Changes in testing processes

Rising trends in STI diagnosis can partially be attributed to increased testing and diagnostic technologies that have facilitated better infection detection. There have been substantial increases in testing rates in recent years, assisted by the availability of self-sampling tests that can be ordered online and used at home.

The advent of the COVID-19 pandemic led initially to a reduction in testing (and consequently diagnoses) but accelerated the provision of online self-sampling more widely. For example, a study looking at STI testing, diagnosis and online chlamydia self-sampling among young people during the first year of the COVID-19 pandemic in England showed declines in testing (chlamydia minus (-)30%; gonorrhoea 26%; syphilis -36%) and diagnoses (chlamydia -31%; gonorrhoea -25%; syphilis -23%) in 2020 compared with 2019 (58). Furthermore, this study showed disparities in the use of online chlamydia self-sampling with those living in the least deprived areas being more likely to be tested using an online self-sampling kit which risks widening existing health inequalities.

Testing for STIs recovered to pre-pandemic levels by 2023. Notably, the increase in the rate of STI diagnoses has been steeper than the increase in the rate of testing, suggesting that increased transmission is playing a role in the rise.

Changes at the service and system level

There are a range of bodies responsible for commissioning and delivery of services related to sexual health, many of which have experienced multiple financial and system pressures. The availability, accessibility, and quality of these services can have a significant impact on diagnosis rates. SHSs are a main delivery route for prevention and control of STIs and may be provided via face-to-face, telephone or online consultations.

Since 2017, there have been notable changes in sexual health service provision in England, with a decrease in tests and screens in physical SHSs, but a large increase in the proportion of consultations through online services.

Following the COVID-19 pandemic, approximately 40% of sexual health clinic consultations were delivered via online services, this compared to just 2% in 2017. These online platforms represent a new era of accessibility and convenience in STI testing, aiming to break down barriers that have often deterred individuals from seeking care. However, they may also lead to additional health inequalities and promote increased testing in groups at lower risk.

Other consequences of online platforms include later detection of asymptomatic syphilis, and infections that require a physical examination rather than a laboratory-based diagnosis. The ASSIST trial aims to assess the impact of these services on health inequalities, access to care, and clinical and economic outcomes, and to identify the factors that influence the implementation and sustainability of these services (59).

Changes in resources

Services responsible for sexual health delivery have been impacted by reductions in funding and resource allocation. For example, reductions in the Public Health Grant have led to a 10% decrease in spending on STI testing and treatment services (from £369.4m in 2015 to 2016 to £332.5m in 2022 to 2023). During the same period, the amount spent on contraception fell from £194.8m in 2015 to 2016 to £163.7m in 2022 to 2023, and the amount spent on promotion, prevention and advice fell from £70.2m in 2015 to 2016 to £50.7m in 2022 to 2023. Further details are available in the [local authority revenue expenditure and financing collection](#).

Changes in the pathogen

Shifts in the genomic epidemiology of STIs such as the emergence of drug-resistant strains and the introduction of new pathogen variants can influence overall prevalence and diagnosis. Of particular concern is the rising threat of AMR for *Neisseria gonorrhoeae* which has developed resistance to every class of antibiotic used for treatment of this infection. AMR is an additional threat in other organisms such as *Mycoplasma genitalium* and *Shigella* spp. Of further concern is evidence for transmissible AMR which has driven the epidemic emergence of multiple *Shigella* spp. outbreaks among GBMSM.

Recognizing the multifaceted nature of these drivers and their interactions is essential for designing effective public health strategies and interventions to address the changing landscape of STIs in England. Whilst our ability to influence some of these factors is limited, even improving our understanding of the nuances of these drivers can support the control of STIs and inform the design of targeted and tailored interventions.

Chapter 4. Why it matters: adverse health outcomes and costs associated with STIs

STIs can cause a wide range of unpleasant symptoms, including genital sores, unusual discharge, pain during urination, rashes, and flu-like illness. Experiencing such symptoms will often drive individuals to seek healthcare, resulting in treatment and management as appropriate. In addition to physical sequelae, symptomatic infections can have a significant and sometimes long-lasting impact on quality of life of affected individuals, including experiencing stigma, impacting relationships and affecting mental health.

If left undetected and untreated, a small proportion of infections will lead to complications that can have a significant and sometimes long-lasting impact on the health and well-being of the affected individual as well as being costly to healthcare services. Examples include infertility, adverse pregnancy outcomes, neonatal infections, systemic infections, damage to cardiovascular and neurological systems, and treatment complications related to AMR. Instances of such harms only occur in a small proportion of overall case numbers, however as rates of STIs increase, so too will the frequency of adverse outcomes experienced, leading these relatively 'rare' complications to become more common.

The nature of health harms and the impact of inequalities experienced between population groups make STIs a significant public health problem. Thus, the vision for this STI Prioritisation Framework is to control STIs to achieve the ultimate desired outcomes of reducing adverse health outcomes and reducing inequalities (as stated in [Chapter 1](#)). A part of achieving this vision will be to reduce STI incidence, particularly in those population groups experiencing the greatest health harms and inequalities associated with STIs. However, reducing incidence should not necessarily be the sole focus and consideration should also be given to how interventions can be optimised, targeted, and tailored to ensure that they reach those population groups.

The pathogens, populations and harms to focus on

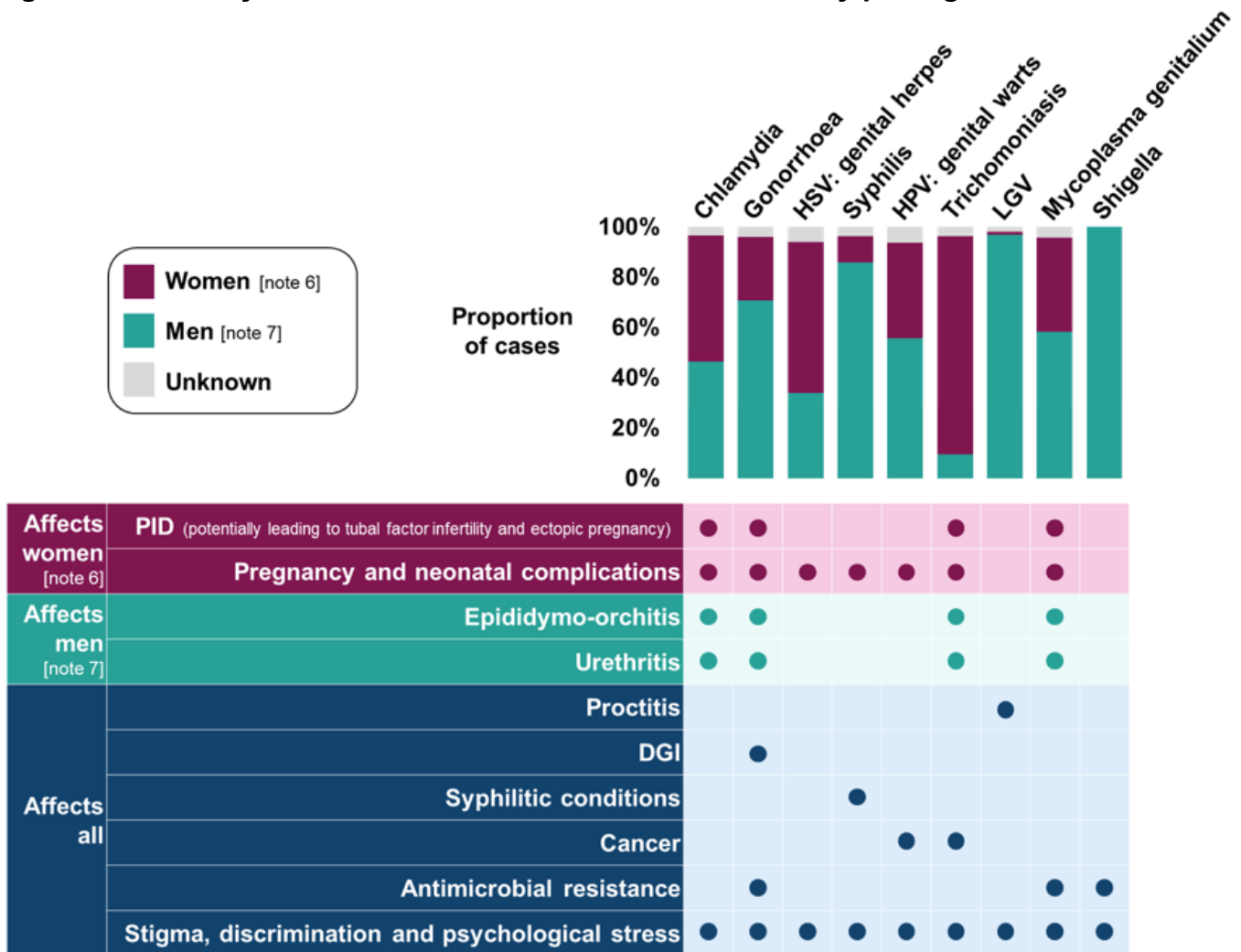
Whether or not an individual can experience the recognised reproductive health harms associated with an infection will depend on whether that individual has the reproductive organ that can be affected. For example, anyone with a womb or ovaries could experience pelvic inflammatory disease (PID).

Complications and long-term health problems vary by pathogen and population group, with some groups experiencing more severe harms than others. These are driven both by health inequalities (for example women may experience more severe harms from some infections, like chlamydia, than men) and health inequities (for example inability for some groups to access services may mean they are less likely to be tested and thus experience the harm). It is

important to note that while there is an established link between STIs and specific sequelae, there is uncertainty on the probability of progression from an untreated STI to sequelae. There are several challenges associated with obtaining these estimates including the significant time lag between infection and presentation of associated harms. The [Return on Investment Tool](#) provides estimates for sequelae attributable or associated with STIs based on a literature review of the evidence base.

[Figure 9](#) shows a summary of adverse health outcomes by pathogen. STIs listed are chlamydia, gonorrhoea, genital herpes, syphilis, genital warts, trichomoniasis, LGV, *Mycoplasma genitalium* and *Shigella*. The combination matrix (bottom) depicts the possible presence (dot) or absence (no dot) of adverse health outcomes for each STI. The graph (top) shows the proportion of new diagnosis of selected STIs in women and men reported among England residents accessing SHSSs, 2023.

Figure 9. Summary of STI-related adverse health outcomes by pathogen



Source: Data on proportion of cases extracted from the [STIs annual data tables 2023](#).

Note 6: This includes anyone with a womb or ovaries.

Note 7: This includes anyone with a penis or testes.

A description of adverse health outcomes that are associated with STIs follows. These are covered more comprehensively in [Appendix 3](#).

Adverse health outcomes affecting women and other people with a womb or ovaries

The [Women's Health Strategy](#) for England outlines plans to boost health outcomes and radically improve the way in which the health and care system engages and listens to all women and girls. The document takes a life course approach to set out a number of priorities which includes fertility, pregnancy, pregnancy loss and postnatal support, all of which may be affected by STIs.

Pelvic Inflammatory Disease (PID), tubal factor infertility (TFI) and ectopic pregnancy

PID is a general term for infection of the upper genital tract, which typically affects sexually active young women and is commonly, but not exclusively, caused by STIs. An estimated 17.1% of women with untreated chlamydia and gonorrhoea will develop PID ([60](#)). There is growing evidence that *Mycoplasma genitalium* also poses a risk after a cohort study in England showed that 4.9% of *Mycoplasma genitalium* infections in women progressed to PID ([61](#)). If left untreated, PID may result in TFI (infertility caused by blockage of the fallopian tubes) and ectopic pregnancy (when a fertilised egg implants outside of the uterus, usually in one of the fallopian tubes).

Preterm birth, spontaneous abortion and neonatal complications

STIs can result in serious complications to maternal and neonatal health. Chlamydia, gonorrhoea, *Mycoplasma genitalium*, trichomoniasis, HPV, herpes simplex virus (HSV), and syphilis are all associated with adverse pregnancy outcomes if untreated, including low birth weight, miscarriage, and preterm birth.

Of particular concern are complications caused by syphilis and HSV. Congenital syphilis is a disease that results from the vertical transmission of *Treponema pallidum* (the bacteria that causes syphilis) during pregnancy or birth. Congenital syphilis can have major health impacts on an infant's health causing miscarriage, stillbirth and a range of congenital anomalies affecting the bones, skin, and organs. Data from the [Integrated Screening Outcomes Surveillance Service congenital syphilis reports](#) highlight increases in the number of congenital syphilis cases, with confirmed cases more than doubling between 2019 and 2023 (n=36) compared to between 2015 and 2018 (n=15) (data available up to September 2023).

Neonatal herpes, caused by HSV, can result in significant morbidity and can be life-threatening for babies. Infants exposed to the virus during childbirth may develop herpes encephalitis, respiratory distress, and skin lesions. HSV can be transmitted to babies born to people with recent (previous 6 weeks) genital herpes infection during pregnancy or vaginal birth, or through breastfeeding. Data on current trends in neonatal herpes in England are limited. [The British Paediatric Surveillance Unit study on neonatal herpes](#) which commenced in July 2019 aims to assess the current burden of neonatal HSV disease and inform prevention and management strategies.

Chlamydia and gonorrhoea can also cause life-changing complications in neonates. For example, both infections can result in ophthalmia neonatorum, a condition which affects the eyes of neonates within the first month of life potentially resulting in irreversible eye damage if untreated.

Transmission of HPV to neonates before or during delivery may result in complications such as juvenile onset recurrent respiratory papillomatosis: a rare disease that causes repeated and often aggressive growth of papilloma (HPV 6 and HPV 11) in the respiratory tract. This complication may take a number of years to develop and typically manifests in children aged 2 to 7 years.

Adverse health outcomes affecting men and other people with a penis or testes

Epididymo-orchitis

In men, STIs including chlamydia, gonorrhoea, trichomoniasis and *Mycoplasma genitalium* can cause inflammation in the male reproductive system, resulting in epididymitis (swelling of the epididymis, a tubular structure at the back of each testicle that carries sperm) and orchitis (the inflammation of one or both testicles). Decreased sperm counts and decreased sperm motility are commonly seen in cases of acute epididymitis and this pathology has been associated with increased levels of male infertility. Historically, it has been estimated that 2% of men with asymptomatic chlamydia develop epididymitis ([62](#)).

Adverse health outcomes affecting all

Disseminated gonococcal infection (DGI)

DGI is caused by the spread of *Neisseria gonorrhoeae* into the bloodstream and can lead to septic arthritis, endocarditis, meningitis and osteomyelitis. [DGI in England, 2019 to 2023: data from voluntary reporting](#) showed that there was a total of 25 confirmed and 7 probable cases of DGI in England between 2019 and 2023. It is noted that both numbers and trends in diagnoses should be interpreted with caution given the likelihood of under-reporting.

Syphilitic conditions

Syphilis is a complex multi-stage disease, that if left untreated, can result in significant morbidity and mortality giving rise to severe cardiovascular, ocular and neurological complications. Such complications include meningitis, strokes, seizures, psychosis, personality change, loss of co-ordination, numbness, blindness and heart problems. The damage caused can be permanent and potentially life threatening. These late-stage presentations of syphilis occur in 12.2% of untreated individuals, of which 4.5% will develop neurosyphilis ([Return on Investment Tool](#)).

HPV and cancer

Several cancers are associated with HPV infection, namely cervical, penile, anal and genital cancers and some cancers of the head and neck. The HPV vaccination programme has led to significant reductions in cervical cancer incidence in all age groups offered vaccination, with

rates in young women 87% lower in women offered HPV vaccination at aged 12 to 13 years compared to the reference unvaccinated population ([63](#)).

Proctitis

Proctitis is characterized by inflammation of the rectal lining and is more common in people who have anal intercourse. Although a number of bacterial STIs may cause proctitis, it is a particular concern for those infected with LGV. Haemorrhagic proctitis is the primary manifestation of infection seen in GBMSM with LGV and a similar picture might present in the case of rectal exposure in women. In addition to bacterial STIs, proctitis may also be a symptom of mpox. Symptoms include rectal pain, anorectal bleeding, rectal discharge, constipation and other symptoms of lower gastro-intestinal inflammation in addition to systemic symptoms such as fever and malaise.

Antimicrobial resistance (AMR)

The World Health Organization (WHO) identifies AMR as one of the top 10 global public health threats facing humanity, as detailed in the [AMR WHO factsheet](#). AMR affects a range of STIs, but is a specific concern for *Neisseria gonorrhoeae*, *Mycoplasma genitalium*, and *Shigella* spp. *Neisseria gonorrhoeae* is listed as one of WHO's high-priority pathogens due to limited treatment options, increasing diagnoses and potentially severe sequelae.

Mycoplasma genitalium has seen the emergence of multidrug resistant strains worldwide, following challenges with diagnostics and syndromic management. The [Mycoplasma genitalium AMR surveillance pilot study](#) found widespread resistance (69%), particularly among men who have sex with men (85%), individuals of black ethnicity (72%) and individuals with a previous STI diagnosis (84%).

Shigella spp. isolates show high levels of AMR, being listed in [WHO bacterial priority pathogens list, 2024](#). Data from the [Sexually transmitted Shigella spp. In England: 2016 to 2023 report](#) provides data on AMR *Shigella* among presumptive GBMSM (domestically acquired cases in men) and highlights that the percentage of isolates that are multi-drug resistant is very high, often exceeding 90%. Of further concern is evidence for transmissible AMR which has driven the epidemic emergence of multiple *Shigella* spp. outbreaks among GBMSM ([64](#)). The findings of additional research suggest that transmissible resistance in *Shigella* extends to other sexually transmissible enteric infections, such as Shiga toxin-producing *Escherichia coli*.

Stigma and discrimination

Stigma and discrimination can prevent individuals from getting early diagnosis and treatment, disclosing to friends and family and getting the support they need. This can also have a significant impact on the mental health of individuals. The [WHO Global health sector strategies on, respectively, HIV, viral hepatitis and STIs for the period 2022 to 2030](#) highlights a need to address stigma and discrimination and tackle the social and structural barriers as 1 of its 5 strategic priorities in strengthening the prevention, diagnosis, treatment and care of individuals diagnosed with a STI.

Costs of experiencing the harm associated with STIs

Most bacterial STIs can be treated with a single course of antibiotics. In contrast, the harms caused by untreated STIs can be complex and costly to manage. For example, treatment of one individual with syphilis costs around £370 (32) whereas the lifetime costs of tertiary or neurosyphilis are around £40,000, as detailed in the [Return on Investment Tool](#). Screening and treatment of one individual with syphilis in an antenatal setting costs around £2,500 (including the costs of screening women without syphilis) whereas the lifetime healthcare costs of one case of congenital syphilis are more than £80,000; when social care costs are included this increases to an estimated £650,000 (32).

Increasing rates of STIs are concerning from an economic perspective because they will translate into growing demand on the healthcare system. An individual's risk of experiencing harms, and of transmitting infections to others, depends on their ability to access timely diagnosis and treatment. This means that, if SHSs do not have adequate capacity to meet growing demand, a 'vicious cycle' can take hold and only be interrupted by a major injection of additional resources (65).

Cost-effective use of resources is essential for protecting population health today, particularly in the context of financial pressures on the healthcare system. It is also a critical component of mitigating the risks of increasing STI rates. Overall, public health expenditure by local authorities is estimated to be 3 to 4 times more cost-effective than NHS healthcare expenditure (66). In the context of sexual health this means investing in STI control and prompt treatment to prevent harms and additional infections and thereby avert more expensive resource use in the future (17). Prioritising individuals and populations with greater sexual health needs and poorer access to services is expected to be particularly cost-effective (67).

Below we describe the costs associated with the harms of STIs. These costs occur in 3 healthcare settings:

- SHSs
- general practices (GPs) (primary care)
- hospitals (secondary care)

There are also wider costs to society, including:

- productivity losses
- AMR

Whilst SHSs are expected to provide most of the care for individuals experiencing STI harms, there is very limited evidence on the costs of this care. Our quantitative analysis therefore focuses on costs to hospitals, which is only one portion of the overall cost of the harms of STIs.

Healthcare system costs

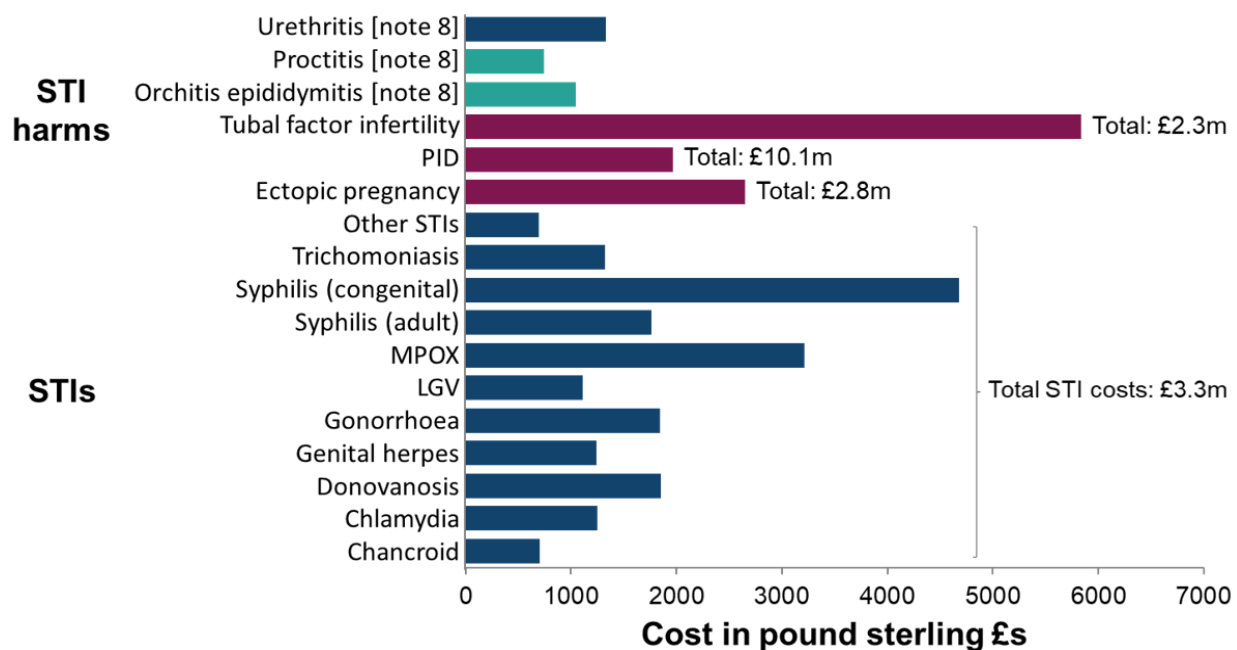
Sexual health service and GPs costs

The majority of the harms of STIs are treated in SHSs or GPs. This includes the substantial psychological impacts of STIs (68). From a cost-effectiveness perspective it is encouraging that most harms are treated outside of secondary care. Indeed, the fact that the total secondary care costs presented below are not higher speaks to the value of SHSs in minimising the incidence of harms and dealing quickly and effectively with those that do occur. However, we have been seeing increasing diagnoses of harms like PID and epididymo-orchitis in SHSs, as demonstrated in the [STIs annual data tables and annual report](#), implying that STI harms represent a significant source of pressure on providers. UKHSA is planning future analyses to quantify these costs and will provide updated information when new evidence is available.

Secondary care costs

Presentations to hospitals for STIs and related harms generate a cost that could be avertable through earlier and more cost-effective treatment by SHSs or GPs. We have estimated the cost per in-patient admission for STIs and 6 associated harms based on analysis of Hospital Episode Statistics (HES) admissions data for 2022 to 2023 combined with the [national tariff](#), [national cost collection](#), and an average cost per bed day for admissions with a Healthcare Resource Group code not included in these datasets ([Appendix 7](#)). Also presented are the total in-patient costs associated with STIs and 3 harms for which the proportion caused by STIs could be robustly estimated, using conservative figures which we are confident represent a minimum for the STI-attributable burden. [Figure 10](#) provides a summary of these secondary care costs.

Figure 10. Secondary care costs attributable to STIs and related harms in 2022 to 2023
Cost per admission



Source: UKHSA analysis of HES admissions data using the national tariff and national cost collection, see [Appendix 7](#).

Note 8: Total cost estimates not available.

Our analysis has a number of limitations which means that these results are underestimates. We use HES data which includes the costs of overnight stays and day case surgeries; the costs of outpatient treatment are excluded. In addition, no robust estimates of the proportion of infections caused by *Mycoplasma genitalium* or the proportion of *Shigella* infections which are sexually transmitted could be identified, so these conditions have not been included.

The secondary care cost associated with HIV is excluded from the above figures because this document focuses specifically on (other) STIs. However, we note that the activities of SHSs are expected to also return benefits in terms of HIV-related resource use. HIV infections generated a secondary care cost of £9 million in the year 2022 to 2023 when estimated using the same methodology. This includes costs of admissions for patients with a primary diagnosis of acute HIV or HIV 'resulting in' another condition (for example B204, 'HIV disease resulting in candidiasis'). An extended analysis could additionally include the costs of admissions with relevant primary diagnoses (for example B37, candidiasis) for which HIV is a secondary diagnosis. The overall cost to the healthcare system of managing HIV is substantial: recent estimates range from approximately £70,000 to £400,000 per person, depending on whether generic or branded drugs are used ([69](#)).

The national HPV vaccination programme delivered in schools is addressing the prevention of HPV-related diseases and so we have not included HPV-related healthcare costs in our estimate of costs potentially preventable by SHSs. The total secondary care cost attributable to HPV-related diseases in 2022 to 2023 was more than £42 million when estimated using the same methodology.

Societal costs

Harms from STIs have economic implications beyond the healthcare system because they are associated with major productivity losses. Indeed, the productivity loss associated with STI harms is likely to outweigh their medical costs ([70](#)). For example, the lifetime socioeconomic burden associated with a single case of cervical cancer in England has recently been estimated as £208,000, more than two-thirds of which is attributable to lost productivity ([71](#)). Similar estimates are not yet available for other conditions.

Chapter 5. Action to take: the STI Prioritisation Framework

Overview of chapter

This chapter outlines a prioritisation framework for STI control, and is split into 3 different sections (S, T and I). The three-pronged approach is designed to support making decisions on local prioritisation based on current available evidence, considering local and national surveillance data, local intelligence and evidence on interventions.

Situation

'Situation' consists of a series of questions which focus on understanding the local context to provide a picture of population need and demand, and service supply. The section uses the same principles required to undertake a sexual health needs assessment (SHNA) and includes a gap analysis to help identify obvious gaps or mismatches in provision such as geographical gaps, oversupply, insufficient supply or mismatches in demand and need. The information and intelligence captured during this process can provide the context to inform the identification of target groups.

Target groups

Focuses on identifying the population groups and infections that should be prioritised to prevent adverse outcomes and reduce health inequalities associated with STIs. The section considers 4 questions to determine where to focus available resources to best meet local needs and address any knowledge or evidence gaps.

Interventions

Considers ways in which interventions can be optimized and implemented in ways that address adverse outcomes and health inequalities. The section covers interventions across 7 domains:

1. Education and empowerment
2. Condoms
3. Biomedical interventions
4. Diagnostic technologies
5. Testing
6. Treatment
7. Partner notification (PN) and management

Principles and data-needs underpinning the STI Prioritisation Framework approach

It is suggested that each section is considered sequentially, in partnership with stakeholders and in collaboration with local communities. Consideration should be given as to the best way to evaluate any actions taken locally as a result of this framework.

Partnership

There are lots of different organisations involved in the delivery of SHSs, these may include representatives from public health, commissioning, clinical providers and voluntary and community sector. Partnership working is crucial to ensure that there is shared ownership over the decisions made throughout the process. Successful partnerships have been shown to share a number of characteristics ([72](#)):

- they are clear about goals and purpose
- they are aware of partners' roles and responsibilities
- they have a clear strategic overview of performance through robust monitoring and evaluation

Consider bringing people together to ensure shared leadership including representatives with sexual health clinical and public health expertise (including genitourinary medicine (GUM) consultants) and those who are able to represent different perspectives across the local landscape.

Co-production

Co-production is a way of working that involves creating an equal partnership between people who use services, local communities and those involved in planning and delivery of services. Consider ways to ensure the perspectives of the local community sit at the heart of decisions made. Engagement should be considered at the earliest stages to help ensure that services and interventions are designed, commissioned, and delivered in culturally and linguistically sensitive ways, thus promoting relevance and accessibility. Done well, co-production helps to ground discussions in reality, and to maintain a person-centred perspective.

There are a number of useful resources which can be used to support co-production: Guidance from PHE on [community-centred public health: taking a whole system approach](#) outlines resources to enable local systems to implement and embed community-centred approaches to health and wellbeing at scale. This builds upon a previous document [health and wellbeing: a guide to community-centred approaches](#) which described a 'family of approaches' for evidence-based community-centred approaches to health and wellbeing. Furthermore, NHS England has published a [co-production resource guide](#) which examines what co-production is, the design of a co-production model and how it can be used in care.

Evaluation

It is strongly encouraged that any actions taken as a result of this framework are evaluated locally. Monitoring and evaluation processes are essential for assessing and improving the effectiveness and sustainability of interventions and services. Comprehensive evaluation processes provide valuable insights into the (intended and unintended) impacts of interventions, shedding light on their effectiveness for specific populations and circumstances, thus aiding decision-making regarding updates and scalability. In order to support this process, a set of templates for intervention level evaluation have been provided ([Appendix 5](#)). [Evaluation resources](#) are available to support practitioners in undertaking evaluations of interventions or projects related to sexual health.

Data

The following are a core selection of data and analyses to inform the questions in the subsequent sections.

Population data exploration:

- [Census maps](#): exploration of local census data including population and identity
- [Mapping income deprivation at a local authority level, Office for National Statistics \(ONS\) 2021](#): including links to underlying data
- [UK population by ethnicity analyses, ONS 2023](#): analysis of changes in age profile and ethnicity between the census 2011 and 2021

Population datasets: local level population data from the 2021 census:

- [Sexual orientation by age and sex](#)
- [Ethnic group by age and sex](#)

Data about STIs:

- [STIs annual data tables and annual report](#): official statistics; information on STI diagnoses and SHSs provided in England by demographic characteristics and geographical region
- [Sexual and Reproductive Health Profiles](#): interactive maps, charts and tables provide data on STIs at a local authority level

See also:

- [Sexual and reproductive health in England: local and national data](#): a guide to the sexual health data available for England and where to find it
- [Sexual health: variation in outcomes and inequalities](#): a toolkit to explore inequalities in sexual health at a local level in England

Situation

This section can be used to support stakeholders responsible for planning and delivery of SHSs with obtaining an understanding of the current local situation in relation to STIs, drawing upon similar principles used when conducting a SHNA. These principles were previously described in 2006 by the Department of Health's national support teams for sexual health and teenage pregnancy as part of their 'How to guide on undertaking a sexual health needs assessment'.

The benefits of understanding the local situation are summarised below (adapted from the Department of Health's 'How to guide').

- to better meet need and demand: to gather the information needed to re-focus local priorities and optimise services to better meet need and demand
- to understand the local service supply: to provide a baseline of need and current service content and configuration against which the progress of any changes implemented can be evaluated and measured
- to identify barriers to access and opportunities for overcoming them: the determinants of needs and use among diverse populations are complex. this process ensures the local population, and their needs are well understood, facilitating better access to information and services
- to help allocate scarce resources to best meet need: information collected will help service providers focus resources effectively and efficiently and inform prioritisation when there are conflicting demands
- to engage stakeholders: responsive services should ensure the ongoing involvement of staff, users and relevant community stakeholders to stimulate involvement and ownership

The core elements involved in understanding the local situation are to map need, examine demand, map service supply and then assess the gaps between these factors. The following section considers each of these 4 components and provides a list of questions that local stakeholders may wish to use as a guide to understand local needs in relation to STIs.

The questions have been compiled and adapted from the following sources:

- Department of Health's national support teams for sexual health and teenage pregnancy's 'How to guide on undertaking a sexual health needs assessment'
- English HIV and Sexual Health Commissioners Group's [Self-assessment tool for local HIV, reproductive health and sexual health service provision](#)

It is acknowledged that there may be other external factors that can impact the local situation such as individual local governance arrangements, resource availability and local data collection processes which you may also wish to consider.

Definitions of need, demand and supply:

Need refers to people at risk of preventable adverse sexual health outcomes. Unmet need refers to those with sexual health needs that are not accessing services or changing their behaviour to reduce risk.

Demand refers to those individuals who are willing to use a service. Unmet demand refers to those who have a demand that is not met by existing services. This includes people who want to access services or are aware of associated risks, but cannot for whatever reason access appropriate services for example due to physical access; opening hours; not knowing where to turn for information or services or cannot access information in a format suitable to their needs.

Supply refers to the service provision, availability and accessibility. Insufficient supply refers to insufficient capacity of existing provision, or inaccessible provision due to service configuration.

Need

In order to ensure effective prioritisation, it is important that the needs of the local population are well understood. Mapping need relies upon gathering information about the general population and about the size and location of those at greatest risk of experiencing adverse sexual health outcomes that are preventable. Ultimately the question being asked is: who are these people and where are they located? The focus is to understand the local STI epidemiology, the size and location of the populations in greatest need and whether this is stable or changing.

The following questions can be used as a guide to understand need in the local area. Later the responses can be used to compare with responses in the [Demand](#) and [Supply](#) sections.

Question: which populations have the greatest need for services?

Consider the following:

- what are your local demographics? (provide an overview of general population)
- what is the level and change in rates of infection by population group and type of infection? (population you need to concentrate on to reduce transmission)
- which of these groups are experiencing or most at risk of experiencing harms from STIs? (population you need to concentrate on to prevent adverse outcomes: it may be helpful to refer to [Figure 9](#))
- are there any variations in outcomes between population groups in your local area or between areas? (population you need to concentrate on to reduce inequalities: if higher STI rates exist in particular population groups or geographies, consider if targeted local interventions are required, it may be helpful to refer to the [Sexual health: variation in outcomes and inequalities toolkit](#)).
- have you recently had or do you currently have any outbreaks among particular groups? If yes, which populations were affected and what was the infection?

Demand

In parallel to understanding the needs of the local population, effective prioritisation also requires a good understanding of demand. Demand relates to those people who are willing to use services. There may be demand and use of services (service uptake) but there may also be a situation where there is demand but no supply (insufficient supply) or demand but no need or both. The questions below can be used to support mapping demand locally. Consideration should be given to all types of demand, including both service uptake (by service type and location) and instances of insufficient demand.

Question: which populations have the greatest demand for services?

This will be a cumulation of:

- which populations are currently accessing services in the area (service uptake by service type and location)?
- which population is currently accessing services out of area?
- are there any populations who are willing to use a service but no service exists or they are unable to get an appointment? (insufficient supply)

Supply

The next parallel task is to map service supply and related activities. Some services do not provide commodities or direct health services to patients but provide supporting activities such as sex and relationship education, health promotion or sign-posting services. It is important to map these services which are likely to be provided by a range of agencies including the community and voluntary sector. It is also important to identify where services are located in relation to each other, to transport infrastructures and in relation to target population groups.

Question: are service capacity, timing and location adequate to address the identified needs of the local population?

You should consider the following:

- which services are available? (what is the balance between primary care; acute; independent; voluntary, community and specialist service providers?)
- what do services provide?
- when do services operate?
- where are services located?
- who delivers these services?

Question: what is the perceived quality of services?

You should consider the following (identified via service reviews; feedback responses; complaints; audit and service questionnaires):

- how do current users perceive the quality of services?
- how do potential users perceive accessibility of services?

Assess and understand the gaps

It is helpful to conduct a gap analysis, to understand mismatches in need, supply and demand. This could include gaps in provision such as geographical gaps, oversupply, insufficient supply or mismatch against need and demand (creating unmet need and unmet demand). The gap analysis is essentially asking the question: to what extent do existing users reflect higher risk population groups (those experiencing the greatest adverse outcomes) compared with lower risk population groups. Or put another way, are the populations experiencing the greatest adverse outcomes accessing local services in the numbers you would expect given local population demographics?

Consider how your service attendance figures compare to local demographics, especially for population groups of particular concern, for example using the [health equity assessment tool](#). In addition to the data sources previously highlighted, it may be helpful to include local data and intelligence.

Question: how does need, demand and supply compare?

You should compare the following:

- population groups in which need is high, but supply and demand is low
- population groups in which need and demand is high, but supply is low
- population groups in which need and supply is high, but demand is low (are there services that users are not willing to use?)
- population groups in which demand is high, but supply and need is low
- population groups in which demand and supply is high, but need is low (look where service uptake is high but percentage of attendees with low risk is also high)
- population groups in which supply is high, but need and demand is low (unnecessary service provision)

Question: if your groups at higher risk are not accessing existing services adequately; the next question is why?

You should consider the following:

- are your population aware of risks, the means of avoiding them and how to access services?
- do you have the right services to meet need locally and are these configured in the best way?
- are existing services inaccessible to certain groups or simply not available at all or limited to certain times of the week (insufficient supply)?

[Figure 11](#) summarises overlaps between need, supply and demand and provides a structure (based on the principles of a SHNA) to consider prioritisation and how any gaps identified can be addressed. Boxes show considerations for action in each circumstance. This is supported by [Figure 12](#), which outlines 2 examples of how the gap between need and supply might be bridged. The relevant segments of the Venn diagram in [Figure 11](#) are indicated.

Figure 11. Venn diagram of need, demand and supply to support in making decisions on prioritisation for STIs

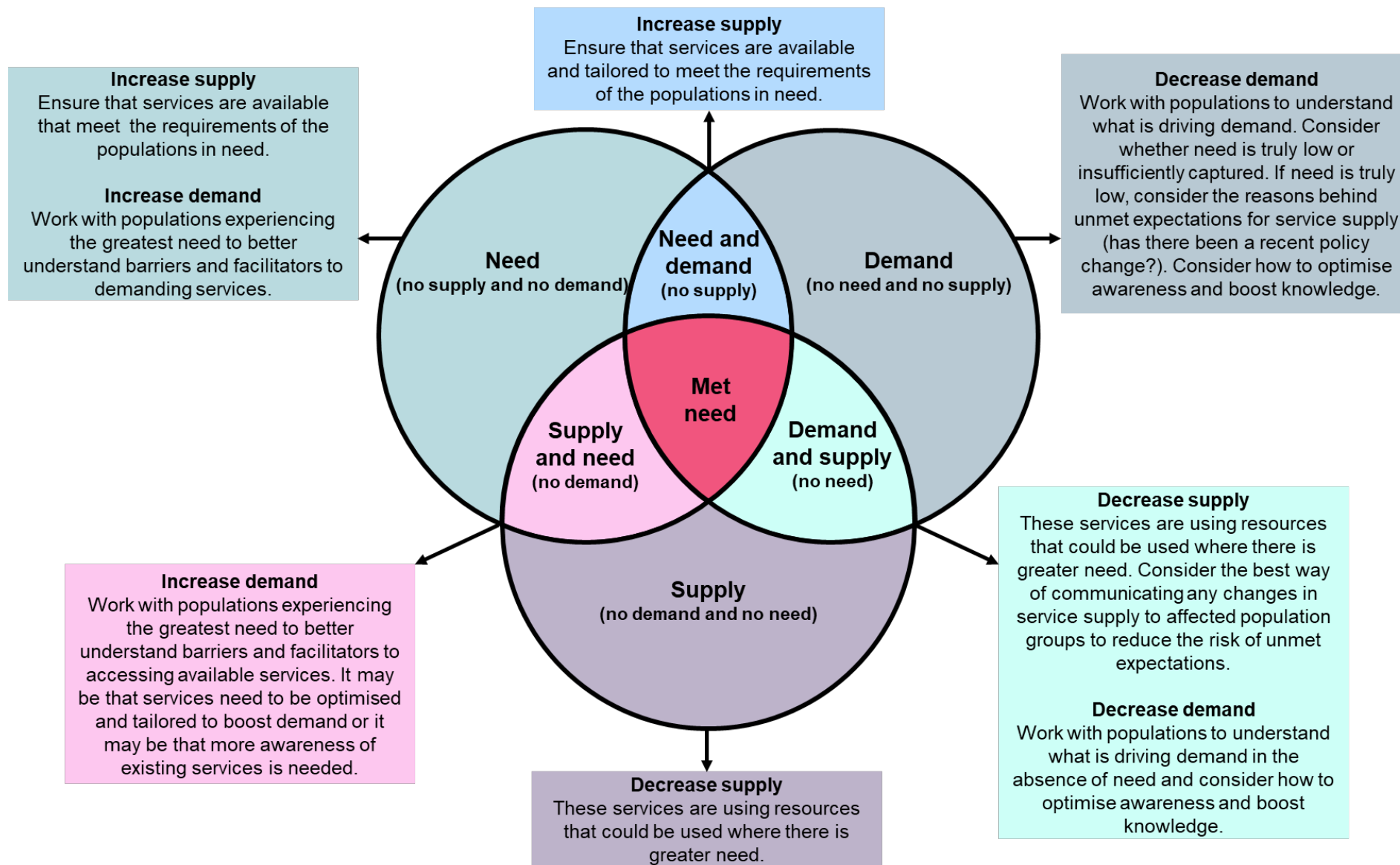
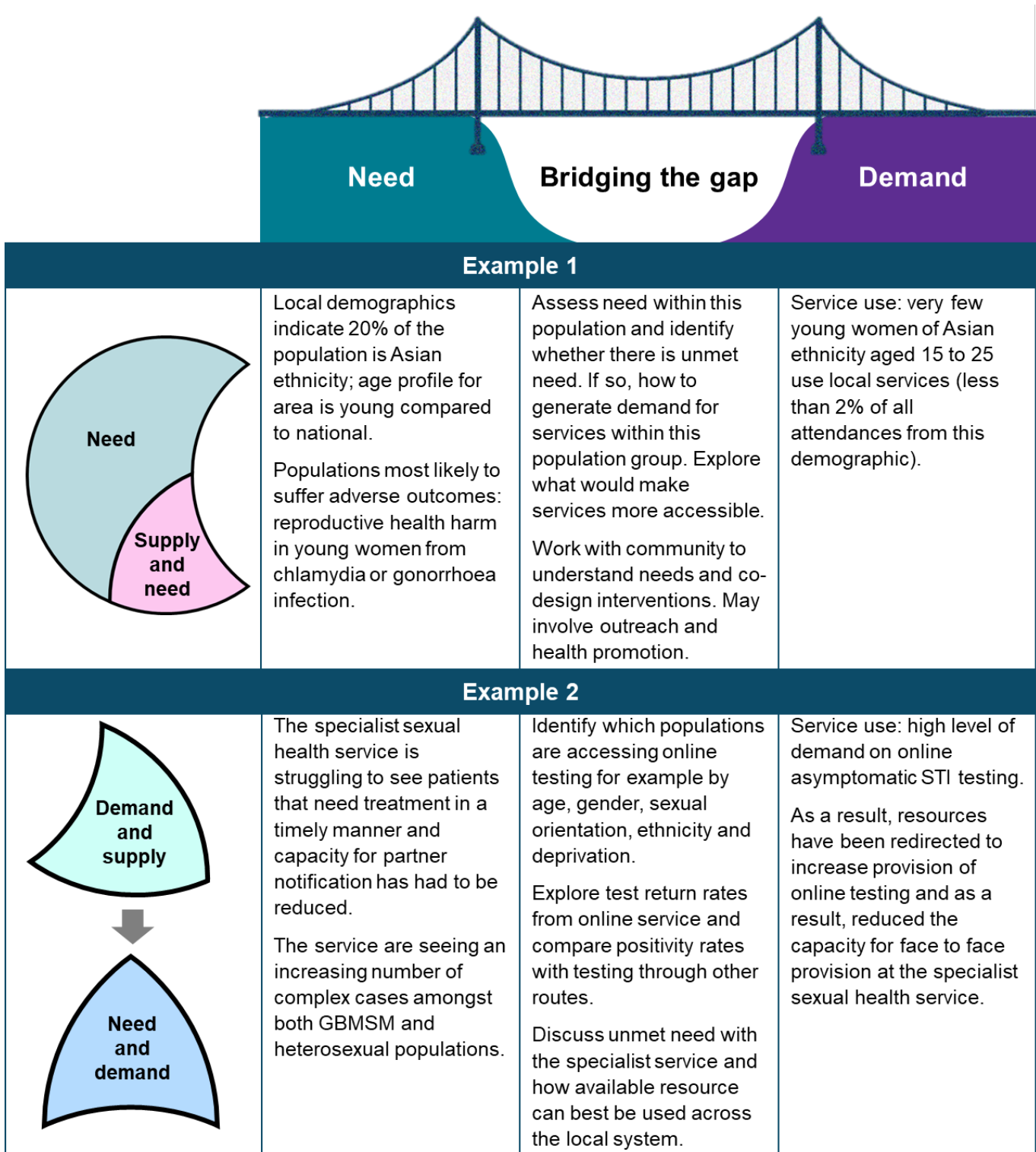


Figure 12. Example scenarios describing need and demand in 2 possible scenarios and outlining possible actions to bridge the gap



Target groups

After examining the local situation and obtaining a clear understanding of any gaps between need, demand and supply the next step is to agree on areas for prioritisation. As part of a qualitative evidence synthesis for the acceptability of interventions for reducing or preventing STIs, NICE made a number of recommendations about targeting interventions to groups with greater sexual health needs ([73](#)). The questions in this section can be used to help in identifying target populations and infections. The next section will take this a step further by considering interventions that can be used and the most effective means of optimising and tailoring these.

Identifying target groups for prioritisation

When considering how to prioritise services, it may be helpful to consider the amount of resource that is allocated to providing low complexity services at a higher volume and ensuring that this is not affecting the availability of resources needed to provide service provision to those who require (or may require) more complex management. In the context of providing open access services and taking into consideration finite available resources, consider prioritising resources as follows (visualised in [Figure 13](#)).

Symptomatic individuals and their partners should always be treated and managed.

Consideration should then be given to how best to prioritise case finding or seeking and treating asymptomatic infections. This will include prioritising underserved population groups and those population groups with the highest risk of adverse outcomes. Consideration should also be given to the pathogens of greatest concern. These groups should be focused on for targeted outreach and access to services, in order to prevent serious harm resulting from STIs and reduce health inequalities within the community.

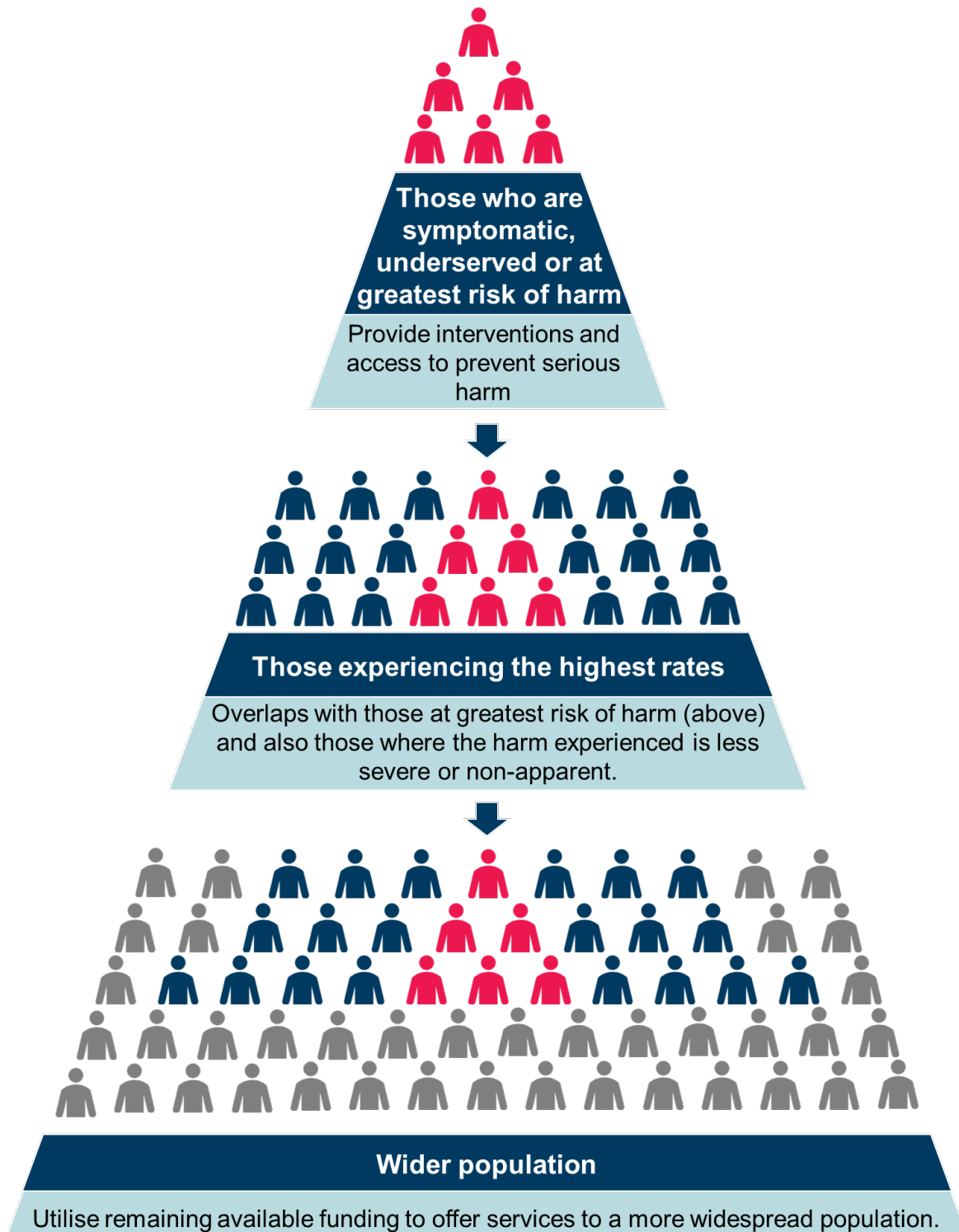
Examples of priority groups include:

- female sex workers at high risk of syphilis: this group are both underserved and at high risk of experiencing serious harm (due to syphilitic conditions and potential for vertical transmission during pregnancy leading to congenital syphilis)
- young women at high risk of chlamydia or gonorrhoea (due to potential reproductive harms)
- GBMSM at high risk of syphilis (due to the potential for severe harm caused by syphilitic conditions)
- those at increased risk of HIV (not discussed here, please see [HIV Action Plan](#))

Next, consider widening the lens to include those groups experiencing the highest rates of STIs. These groups will overlap with those at greatest risk of adverse outcomes but will also encompass those where the harm experienced is less severe or non-apparent. Engaging with these groups may impact STI transmission and alleviate individual concern. It may be useful to encourage use of online service provision and prioritise access to clinical services for those experiencing symptoms or with a diagnosed infection.

Finally, consider how remaining resource can be utilised to offer services (including prevention and awareness raising) to a broader population, emphasising the importance of open access service provision and considering the [integrated sexual health service specification](#). This approach ensures that everyone, regardless of their risk level or status, has access to essential SHSs.

Figure 13. STI prioritisation pyramid, outlining a suggested order for prioritisation of resources to follow in the in the context of providing open access services and taking into consideration finite available resources



Questions to consider

The 3 questions below are designed to support prioritising population groups and infections. When answering each question, consideration should be given to the unique aspects of the local situation and the outcomes of your gap analysis:

- where do you need to prioritise actions in order to reduce inequalities?
- where do you need to prioritise actions in order to prevent adverse health outcomes experienced?
- where do you need to prioritise actions in order to reduce rates?

It is possible that there are gaps in knowledge and evidence for some population groups that makes it difficult to answer the 3 questions posed above, the final question asks you to consider where these gaps are and how you can prioritise closing these:

- where do you need to prioritise actions to close any gaps in knowledge or evidence?

Tailoring interventions

In addition to identifying target groups for interventions, it is important to consider how best to tailor those interventions.

Customised approaches acknowledge the unique needs of different groups, and ensure that interventions are effective and culturally sensitive, thereby enhancing their acceptability and success.

Customised approaches acknowledge the unique needs of different groups, for example people with learning disabilities may benefit from in-person appointments and video guides to receive support in conducting STI testing properly (25).

Findings from another NICE evidence review highlighted the importance of participants' preferences and desire for choice over intervention content and delivery style (73). Results from the qualitative evidence in this review suggested that people's preferences are often broad and differ from person to person and group to group. There was an absence of clear evidence that one particular type of intervention works best for one particular population of interest, which likely reflects the qualitative finding that different people want different things from a sexual health interventions and that tailoring interventions to groups is important.

Tailoring can be achieved through co-designing interventions with affected population groups. In some instances, there are guidelines on providing services for specific population groups, for example the BASHH standards for the management of sexual health in secure settings outlines current best practice which takes into account the unique challenges and opportunities for testing and treatment of STIs for people in secure settings (74).

Interventions

After examining the local situation and agreeing target groups for prioritisation, consideration can be given to identifying and implementing appropriate interventions to achieve the desired outcomes in sexual health and public health. When deciding which interventions should be prioritised (or de-prioritised), it is important to consider 4 evidence areas (as used in the [All Wales Prioritisation Framework](#)):

- does it work? consider clinical effectiveness and health gain
- if yes, does it add value? consider population and individual level impact and reduction in health inequalities
- if yes, is it a reasonable cost? consider affordability and cost effectiveness
- if yes, is it the best way of delivering? consider service delivery and any potential implications for other services

The section covers interventions across 7 domains:

1. Education and empowerment
2. Condoms
3. Biomedical interventions
4. Diagnostic technologies
5. Testing
6. Treatment
7. Partner notification (PN) and management

To make it easier to focus on manageable components that can be addressed, each domain is broken down into a number of areas for optimisation, each of which includes a selection of principles for consideration. Moving through this process should help to guide decision-making on whether aspects of optimisation are being achieved or can be feasibly implemented. All of the considerations for optimisation in this section are based on current available evidence for each intervention; further details are provided in [Appendix 3](#).

The areas for optimisation outlined should be considered alongside general principles of what providing good quality sexual health provision looks like. ADPH and PHE co-produced a series of 'What good looks like' publications which sets out the guiding principles of 'what good quality looks like' for a range of population health programmes in local systems including [What good sexual and reproductive-health and HIV provision looks like](#).

1. Education and empowerment

What is it?

- health education has been defined by WHO as the “constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills which are conducive to individual and community health” (75)
- the principles set out below relate to a wide range of intervention types including, but not limited to, provision of information through printed materials, online, social media, interactive online services, face to face interactions, and behaviour change interventions

Why is it important?

- WHO recommends enabling access to high quality information on reproductive and sexual health via health education as evidence consistently shows that high quality sex education delivers positive health outcomes (76)
- those with poor STI knowledge are less likely to test for STIs (among HIV negative GBMSM) (77)
- interventions should aim to adopt a multi-model approach, incorporating components from mental health, domestic violence, drug and alcohol services (73)

Table 3. Considerations for optimising education and empowerment

Areas for optimisation	Considerations for optimisation
Development	<p>Interventions should be co-produced with the communities they are intended for. Attention should be given to ensure they are culturally sensitive and appropriate (73).</p> <p>Behaviour change theory may be used to inform design of interventions (78).</p>
Evaluation	<p>During intervention development, establish how intervention components will be evaluated. There is a lack of UK-based evidence regarding the effectiveness and cultural acceptability of interventions in certain groups, for example minority ethnic populations (73).</p> <p>Establish mechanisms to evaluate the intended and unintended effects of the intervention. Interventions do not always have the intended effect, in fact sometimes they can have the opposite effect. The safetxt intervention (a series of text messages designed to improved safe sex behaviours in people aged 16 to 24 years) did not reduce chlamydia and gonorrhoea</p>

Areas for optimisation	Considerations for optimisation
	<p>reinfections at one year. More reinfections occurred in the intervention group compared to the control group. These results highlighted the need for rigorous evaluation of health communication interventions (79).</p>
Content	<p>Risk perception and risk assessment activities are an important component of sexual risk reduction interventions (73).</p> <p>Content should be sex positive. There should be a focus on self-worth and empowering people (73).</p> <p>Interventions should include choice, decision making, communication and negotiation skills (73).</p> <p>Utilise approaches that take identity into account. These are more likely to be effective in promoting public understanding and behaviour change around STIs (80).</p> <p>Messaging aimed at all groups at higher risk should be targeted, clear, informative, and educational. Other considerations are as follows (73, 81 to 82):</p> <ul style="list-style-type: none"> • a call for action • narrated by speakers who have relatable voices • negative or fear-based style is not considered effective • ensure messaging is not over complicated nor contradictory • information on PrEP should emphasise that it is an intervention exclusively for HIV and does not protect against other STIs • information on condoms should also emphasise protection against STIs in addition to pregnancy <p>Interventions aimed at groups at higher risk should include more than STI prevention information. Considerations include (73):</p> <ul style="list-style-type: none"> • interventions that are social and informal • interventions should avoid preaching of safe sex messages • improving knowledge on how STIs are prevented, transmitted, diagnosed and treated • encouraging people, particularly men, to have an open and communicative approach around (concurrent) sexual relationships • interventions that address sociocultural issues

Areas for optimisation	Considerations for optimisation
Delivery	<p>Consider delivery by peer facilitators. People prefer sessions delivered by peers. In particular young people engage more with interventions that are led by peers with shared experiences (17).</p> <p>Make Every Contact Count. Interventions should be delivered across a range of services, including targeting risk behaviours associated with STI acquisition, including substance use (17); and consider opportunistic interventions such as pharmacy which may be engaged in other activities like condom distribution and have a reach to communities you want to prioritise (83).</p> <p>Consider utilising interactive digital interventions that provide information and tailored, personalised feedback to support decisions for behaviour change enhance knowledge, self-efficacy, intention, and sexual behaviour (84).</p> <p>Identify strategies that promote high levels of user engagement with online content. This may include regular individualised interaction with users, encouraging conversation, uploading multimedia and relevant links, and highlighting celebrity involvement to support high level engagement (85).</p> <p>Consider a blended approach to health promotion activities: digital can provide some elements, but not all. For example, in the short to medium term text messaging interventions probably increase STI and HIV testing but not condom use (86).</p> <p>Digital exclusion needs to be considered. There may be population groups that do not have full and unhampered access to the internet, including some young people (78).</p> <p>Digital interventions in a clinic setting are considered effective. The use of text messages to promote STI testing, encourage condom use, or encourage discussion with a healthcare professional about sexual health are considered to be effective and feasible ways to reach young people (78).</p> <p>Utilise mainstream media and venues to promote sexual health messages. This was preferred by GBMSM to exclusively gay press or gay venues to help reduce stigma (17).</p> <p>It is important to repeat, continue, revisit intervention delivery. The impact of health promotion interventions wane with time.</p>

2. Condoms

What is it?

- condoms are a barrier method of contraception and can prevent transmission of STIs and HIV during vaginal, anal and oral sex (4)

Why is it important?

- condoms are a crucial intervention for the prevention of STI transmission (87)
- introducing and normalising correct and consistent condom use is essential for the prevention and reduction of STIs (6)
- English adolescents have previously been identified as having relatively high levels of sexual intercourse experience, and relatively low levels of condom use, compared to other European countries (88)
- consistent and correct use of condoms can significantly reduce risk of STIs, preventing infection and reducing transmission (4, 6)
- comprehensive, evidence-based behavioural interventions can remove barriers and facilitate condom uptake and use

Table 4. Considerations for optimising condoms

Areas for optimisation	Considerations for optimisation
Availability and accessibility	<p>Ensure availability and easy access to free condoms for groups most affected by STIs. Consider reviewing access to condoms, ensuring that condom distribution services follow guidance (8) and are young people friendly (89). The availability of free condoms speeds up the process of familiarisation and practising with condoms in advance of them being needed and used for sex with a partner (8).</p> <p>Consider opportunities to expand C-Card Schemes age range and to groups considered at higher risk of contracting STIs. For example, consider expanding offer to people aged 20 to 24 years and People Who Inject Drugs. Evidence of cost effectiveness demonstrates that it is almost 3 times more cost effective towards a wider age group of aged 13 to 25 years (8). The sexual and reproductive health return on investment tool can be used to support local planning.</p> <p>The CONUNDRUM Study recommended reviewing the promotion of Condom Distribution Schemes (81) and addressing concerns regarding confidentiality, knowledge of</p>

Areas for optimisation	Considerations for optimisation
	<p>products regarding size and fit and quality of products. The study also highlighted preference for:</p> <ul style="list-style-type: none"> • minimal face-to-face contact • online ordering of condoms posted home • co-development
Negotiating use	<p>Consider how condom use is taught. Qualitative evidence demonstrated that education on relationships and the development of confidence and communication and negotiating skills is an effective way to promote self-esteem and empower young people (8). A Meta analysis focused on preventing STIs found interventions that teach and encourage correct and consistent condom use, alongside communication and negotiation skills are particularly effective in reducing STI transmission in young people (6).</p> <p>Consider when and at what age condom use is taught. The CONUNDRUM study found that young people who use a condom at sexual debut are twice as likely to have used a condom at their most recent sexual encounter (81).</p> <p>Consider including risk perception and risk assessment activities as part of condom interventions (73).</p> <p>Consider motivational interviewing for GBMSM and other high-risk groups. NICE review demonstrates it can increase frequency of condom use (73). Motivational interviewing aimed at GBMSM will require repeating as effectiveness wanes.</p>
Health promotion and messaging	<p>Consider messaging that emphasises condom use to prevent STI transmission. Young heterosexuals are more likely to use condoms to avoid pregnancy (81) which is perceived as the greater risk to acquiring an STI (82).</p> <p>Consider testing acceptability of messaging for target groups and consider how to co-develop messaging and use behaviour change theory (78).</p> <p>Consider how condom interventions are delivered. A UK based randomised control trial found young men had an improved attitude towards condoms, increased confidence using them and fewer problems during use following the trial (90).</p>

3. Biomedical intervention

What is it?

- biomedical interventions are clinical or medical interventions used to prevent infection. they include vaccination and the use of drugs to prevent infection, for example pre- and post- exposure prophylaxis

Why is it important?

- vaccination is one of the most effective preventative measures against disease and ill health
- SHSs deliver routine vaccination against HAV, HBV and HPV (with JCVI recommendations for vaccination against mpox and gonorrhoea)
- vaccination prevents infection and subsequent health harm. for example, the adolescent HPV vaccination programme has led to 68% reduction in genital warts in young women; a 72% reduction in heterosexual young men; and a 79% reduction in GBMSM aged 15 to 17 years in 2022 compared to 2018, as shown in the [STIs annual data tables and annual report](#). cervical cancer rates are 87% lower in women offered HPV vaccination at aged 12 to 13 years compared to a reference unvaccinated population; and the adolescent HPV vaccination programme has almost eliminated cervical cancer in women born since September 1995 ([63](#))
- vaccination has been shown to be important in preventing outbreaks, for example provision of vaccination for HAV means a well-vaccinated population is better protected during an outbreak ([91](#)); as well as being an outbreak control measure, such as during the 2022 outbreak of mpox ([44](#))
- dPEP has been shown to reduce syphilis and chlamydia infection by approximately 70% in GBMSM and transgender women in 3 randomised control trials ([46 to 48](#)). whilst one study in cisgender, heterosexual women did not show any significant reduction, this is likely due to suboptimal adherence ([92](#))

Table 5. Considerations for optimising biomedical interventions

Areas for optimisation	Considerations for optimisation
Knowledge	<p>Those at higher risk of infection need to be informed about the risks of infection and benefits of vaccination (see Green Book (93 to 95)).</p> <p>Clinicians should ask patients about antibiotic STI prophylaxis use and discuss the risks and benefits. This should be done in line with existing BASHH position statement (96) and future guidelines. A community survey found that approximately 1 in 10 of PrEP users report using antibiotics to prevent STIs (97). However,</p>

Areas for optimisation	Considerations for optimisation
	up to 40% of GBMSM who report ever having used antibiotics for STI prophylaxis, used an antibiotic other than doxycycline (98).
Availability	Vaccination should be available to populations at higher risk of infection in line with recommendations set out in the Green Book (HAV, HBV, HPV, mpox, gonorrhoea).
Accessibility	<p>Use of mobile technologies to enable booking for vaccination appointments and provide reminders should be considered (93).</p> <p>Vaccination should be considered as part of a package of STI interventions (93).</p> <p>Work with community-based organisations to improve access to vaccination. This could be done either through raising awareness or outreach provision of vaccination: for examples, see under-the-radar case studies (99).</p> <p>Patients accessing services online should be referred into face-to-face services to enable vaccination (100).</p>
Offer	<p>Vaccination should be offered to patients in line with national guidance (see Green Book) (100).</p> <p>Healthcare providers should encourage appropriate uptake of vaccination. This has been reported as a primary reason for taking up the HPV vaccine amongst GBMSM (94). National data from the STIs annual data tables and annual report for 2022 show that very few GBMSM (less than 1%) have not accepted HPV vaccine when offered it.</p>
Uptake	<p>Use surveillance data or audit to understand vaccination uptake amongst the eligible population. This is an important step in ensuring high and equitable vaccination uptake (101).</p> <p>Identify lower coverage groups within the eligible population: for example, consider uptake by ethnicity and IMD (102).</p> <p>Design evidence-based interventions for high and equitable vaccine uptake (101).</p>
Recall	<p>Consider processes within clinic to ‘recall’ patients for subsequent doses as required. Reported completion of second HPV vaccine doses in GBMSM from 2016 to 2022 was 55%, as detailed in the STIs annual data tables and annual report.</p>

4. Diagnostics

What is it?

- the accurate, timely, appropriate and acceptable detection of STIs
- the timely and accurate detection of STIs leads to appropriate treatment, preventing the emergence of complications, AMR, and onward transmission

Why is it important?

- accurate (or ‘correct’) diagnosis will reduce false negatives (missed infections) and false positives which lead to inappropriate treatment and stigma
- timely and early detection reduces the opportunity for onwards transmission and prevents the development of long-term outcomes and harms. timely negative test results reduce unnecessary antibiotic use
- tests should only be done for STIs which have the potential to cause harm to the individual, avoiding inappropriate treatment
- tests which include antimicrobial susceptibility information can be used to guide treatment and improve antibiotic stewardship

Table 6. Considerations for optimising diagnostics

Areas for optimisation	Considerations for optimisation
Accuracy	<p>People being tested for STIs should have the most accurate diagnostic test for each infection for which they are being tested according to standard 3 of the national guidelines (100).</p> <p>The sample type, sample site and test type for detection and diagnosis of STIs is determined by the presence and type of symptom and a sexual health risk assessment. This is specified in the BASHH summary guidance on testing STIs (18).</p> <p>Where there are no symptoms, use sexual history taking to undertake a risk assessment to guide recommended testing (95).</p>
Timeliness and accessibility	<p>All diagnostic samples should be processed by laboratories in a timely fashion in order that results can be conveyed quickly and acted on appropriately. Laboratory turnaround times for positive results can contribute significantly to the time to treatment for an infection. Laboratories should ensure they have the ability to rapidly review results, confirm positive results where necessary and communicate results to clinicians as per standard 3 of the national guidelines (100).</p>

Areas for optimisation	Considerations for optimisation
	<p>Providers should have systems in place to monitor the time from when the specimen is received by the laboratory to the time the report is issued. The turnaround time for laboratory testing should be 4 working days or less for standard screening test, regardless of results. If supplementary testing or referral to the reference laboratory is necessary, a preliminary report should be issued and the final report within 9 working days. Electronic requesting and reporting should be encouraged to minimise turnaround times as per standard 3 of the national guidelines (100).</p> <p>Consider the role of Point of Care (POC) testing. Rapid diagnostics are available for use as POC tests, mostly for chlamydia, gonorrhoea and trichomoniasis. These can be used in a non-laboratory setting and give results the same day (within 30 to 90 minutes for currently available options). Alternatively, more traditional laboratory-based molecular diagnostics can be installed in some clinic settings to provide near patient testing. Thus, the most appropriate treatment can be given the same day and conversely unnecessary treatment avoided. The current options are not suitable for every setting. Cost effectiveness evaluation of POC testing is needed to quantify the trade-off between the costs and resources required to use the options currently available and the potential benefits (103).</p>
Appropriateness	<p>Ensure the sample type and testing method is the correct one for each infection and limited to STIs that are considered harmful. The BASHH position statement on the inappropriate use of multiplex testing platforms highlights both unnecessary testing for commensal infections not considered harmful, and use of the wrong sample type to reliably detect infections of concern (104).</p>

5. Screening, testing and retesting

What is it?

- testing includes the process of taking biological samples and testing them for the presence of STIs. Testing can be done on someone with symptoms that might indicate an STI, as well as someone who is asymptomatic but may have been at risk of exposure to an STI. Other testing methods include ‘re-testing’ to check for re-exposures to specific STIs; or ‘tests of cure’ to check an STI has appropriately responded to treatment
- screening is population level testing for a condition in healthy, asymptomatic people. Chlamydia screening for young women aged 25 years and under is currently provided in England under the NCSP

Why is it important?

- testing strategies have a central role in the control of STIs as accurate testing enables treatment of those infected and subsequent reduction in infectiousness, reduced clinical consequences, identification and treatment of potentially infected partners and opportunities for health promotion and influencing behaviour due to awareness of infection
- testing and screening of the right populations, using the right methods at the right frequency, can be cost-effective and provide good value for money, especially when diagnosis is coupled with strong linkages to care (1)

Table 7. Considerations for optimising screening, testing and retesting

Areas for optimisation	Considerations for optimisation
Knowledge	<p>Help people understand their risk for STIs and the need to test. Emphasise that it’s not necessary to have a lot of partners to get an infection, as many people with STIs have no symptoms and are unaware they’re passing on an infection (105). Help others understand what behaviours and situations might put them at higher risk for STIs and need for testing (18).</p> <p>Use tailored community engagement interventions to raise awareness. Community in-reach, outreach, and online interventions that focus on specific groups or issues can raise awareness and promote STI testing when delivered in culturally sensitive and sex-positive ways (25, 106, 107).</p> <p>Advise on regular asymptomatic testing intervals depending on individual risks and needs in line with current guidance (18).</p>

Areas for optimisation	Considerations for optimisation
	<p>Provide training and education for healthcare staff on testing policies. Having STI policies in place and ensuring staff are aware of them can help increase testing coverage and access across a range of settings, including SHSs, primary care and hospital settings (107).</p>
Accessibility	<p>Ensure people know where and how to get tested. Ensure local service websites give up-to-date information on which testing options are available in their area. Interventions and information should be tailored to target service users, but alternative interventions and information methods should be considered for those excluded by this targeting (25).</p> <p>Ensure people have rapid and open access to STI testing and treatment. People with needs relating to STIs should have access to services in line with the national standards for the management of STIs (100).</p> <p>Offer a range of STI testing options. Remote self-sampling (for example through digital pathways and at home testing) is increasingly popular as described in the STIs annual data tables and annual report. However, some communities are less likely to access this form of testing and there is ongoing research to understand health inequalities with online STI testing, for example the ASSIST study and the SEQUENCE digital study. It is important that people can also access in-person testing through SHSs and other venues (25).</p> <p>Self-sampling kits through outreach services can help target underserved groups. Self-sampling interventions delivered through outreach and community settings can help target underserved groups that may have not sought out testing (25).</p>
Offer	<p>Offer the appropriate STI test(s) based on the individual, their sexual history and symptoms. This should be done in line with the BASHH testing guidelines (18).</p> <p>Use e-record prompts and reminders. The use of prompts and reminders on electronic medical records in various healthcare settings can help aide healthcare staff to offer appropriate STI testing, and increase testing access and uptake (107).</p> <p>Chlamydia screening outside of SHSs should focus on women and other people with a womb or ovaries. The harmful effects of chlamydia occur predominantly in women. The opportunistic offer of asymptomatic chlamydia screening outside of SHSs via the NCSP should focus on women aged 25 years and under; this includes</p>

Areas for optimisation	Considerations for optimisation
	<p>people with a womb or ovaries irrespective of gender (108). Screening offers should be made annually or on change of partner, regardless of reason for visiting the service, and using the advice and information provided in the NCSP guide for local areas to support the offer of opportunistic chlamydia testing outside SHSs (109).</p> <p>Have chlamydia testing kits readily and easily accessible for healthcare staff. This is an important way to reduce barriers to offering a screening test (109).</p> <p>Offer a re-test for those who have tested positive for chlamydia through the NCSP. Those testing positive for chlamydia via the NCSP are recommended to have a routine offer of re-testing between 3 and 6 months after treatment (110).</p> <p>Offer a test of cure (TOC) for those diagnosed with gonorrhoea infection in line with the national guideline for the management of infection with <i>Neisseria gonorrhoeae</i>. (111).</p>
Uptake	<p>People are more likely to trust and engage with services that are familiar and well designed. Visibility, familiarity, and advertising have been shown to increase trust in services. Additionally, aesthetics, language and design appeal influence how people respond to interventions (25).</p> <p>There is conflicting evidence on whether incentives increase testing uptake. Incentives can help encourage people to test; sometimes this is not for the incentive itself but because it gives people a justifiable reason to test. However, there are ethical concerns, particularly for people who are financially vulnerable, as it can lead to unnecessary testing or inappropriate motives for individuals to expose themselves to STIs (25).</p> <p>Express testing can improve access and uptake for individuals with low-risk criteria. Express testing, or providing self-sampling STI testing without physical examination, may be appropriate for individuals with low-risk criteria and symptoms and can improve testing uptake, diagnosis rates and time saved (25).</p> <p>Healthcare input and emphasis on ease of testing can increase uptake of chlamydia screening. People belonging to the NCSP target group have said that they value input from healthcare professionals to help them to make informed decisions about their sexual health. They also identified that it's important that they are told that the test is easy to do themselves, confidential and that they do not need to be examined (109).</p>

Areas for optimisation	Considerations for optimisation
Delivery of results	<p>Testing in non-clinical outreach settings can reduce the time from testing to treatment. Universal rapid testing in non-clinical outreach settings (for example, community-based organisations, saunas and sex on premises venues, mobile vans, pharmacies) can reduce time from testing to treatment (25).</p> <p>Think about communication medium. SMS message is often a common, convenient and generally acceptable method for delivering results and recalling patients to services. However, be mindful that for certain groups or in certain situations, telephone calls or face-to-face contact is preferred (25, 106, 107).</p> <p>Testing and screening should focus on reducing time to test results and treatment, as well as strengthening PN and re-testing after treatment (25, 108).</p>

6. Treatment

What is it?

- treatment is the administration of medications and therapies to cure infections, relieve symptoms, or modify infections to cause less harm

Why is it important?

- if left untreated, some STIs can lead to serious health complications. most STIs are curable with the right medication, and those that are not curable can often be treated to have less severe symptoms or cause less harm
- effective and timely treatment can reduce the risk of onward transmission and re-infection
- AMR of STIs is increasing, making it crucial to ensure the correct treatments are administered

Table 8. Considerations for optimising treatment

Areas for optimisation	Considerations for optimisation
Identifying the infection	Covered in testing and diagnostics sections.
Accessibility	<p>Ensure SHSs can be accessed in a timely manner for the management of STIs. Those with confirmed or suspected STI should ideally be referred to SHSs. But if this is not possible within a reasonable time, or if the person refuses to attend, then management can be delivered in primary care if appropriate expertise available (112).</p> <p>Online delivery of treatment for uncomplicated chlamydia infection can help some groups access treatment more quickly. With the evolution of digital STI testing pathways, novel treatment distribution pathways have been developed. Treatment for uncomplicated chlamydial infection can be provided through postal delivery or ‘click and collect’ options. However, there are potential health inequalities with such pathways and a need to ensure good access to traditional SHSs (113).</p>
Offer	<p>Provide treatment as soon as possible. Those diagnosed with an STI should receive treatment as quickly as possible, within 3 weeks (standard 85%), as per the national standards for the management of STIs (100). Timely treatment can reduce the risk of onward transmission and reinfection.</p>
Selection of the right treatment	<p>Treatment of STIs should be provided as per the national guidelines to ensure the correct treatment is given.</p>

Areas for optimisation	Considerations for optimisation
	<p>Provide support for the treatment of STIs in primary care. Work together with primary care providers to ensure that those STIs diagnosed and treated by GPs are done so in line with national STI management guidelines, particularly for gonorrhoea (114). Promote the use of available treatment advice resources (112, 115).</p> <p>Ensure good antimicrobial stewardship to limit the impacts on AMR among STI. The correct use of antibiotics to treat STIs is important for preventing increasing AMR observed among STIs globally among pathogens such as <i>Neisseria gonorrhoeae</i> and <i>Mycoplasma genitalium</i> (28, 29).</p>

7. Partner notification (PN) and management

What is it?

- PN is the process of identifying, testing, and treating sex partners of a person diagnosed with a STI and is an essential component of STI control

Why is it important?

- effective PN prevents reinfection of the individual diagnosed with the STI (the index patient), whilst facilitating treatment of their partners and reducing the spread of STIs in their sexual networks ([116](#))
- PN is more likely to identify individuals with an STI infection compared to primary screening, allowing for a targeted approach
- increasing the proportion of partners notified and treated nationally would reduce the cost per case identified ([38](#))

Table 9. Considerations for optimising PN and management

Areas for optimisation	Considerations for optimisation
Elicitation of sex partners	<p>Ensure PN conversations are happening. PN is a crucial part of best practice in sexual health and should be integral to conversations about STI diagnoses (116).</p> <p>Focus on both the personal and public health benefits. Advise those diagnosed with STI infections about the benefit of PN in preventing re-infection as well as the wider role in preventing wider transmission of STIs (17).</p> <p>Recognise the impact of partner type on PN. The relationship between the index patient and the partner(s) will impact patterns of sexual activity, risk of (re)infection and transmission, and influence preferred PN notification methods. Use of a partner classification tool can help inform discussions around PN and identify successful PN plans that are tailored to partner types (117).</p> <p>Offer a choice of PN methods. Provide information about the various PN methods available (for example patient referral, enhanced patient referral, provider referral) to support individuals in their decision making around PN plans (118).</p> <p>Expand opportunities to deliver PN conversations. Explore opportunities to diversify staff that are trained to undertake PN conversations. This might also include partnerships with non-specialist settings, such as primary care (119).</p> <p>Ensure PN is delivered in line with national guidance (120).</p>

Areas for optimisation	Considerations for optimisation
Notifying sex partners	<p>Focus on getting simple PN methods right. Simple patient referral (whereby the index patient informs partners either directly or with the use of contact slips or referral letters) is as effective as other types of PN and is generally the preferred method by individuals. Offering support and discussions ('coaching') to individuals on how this can be carried out can help in the successful delivery of PN (118).</p> <p>Recognise when other PN methods are appropriate. Provider referral (whereby the service provider notifies partners) may be a more appropriate method where this is preferred by the index patient, particularly where there are concerns around anonymity, confidentiality or safety (118).</p> <p>The use of digital platforms for electronic PN (ePN) can help automate PN processes and make them more efficient. However, they require additional information technology capacity, are not appropriate for groups or settings that are digitally excluded, and it is not known if people would be receptive to this format (118).</p>
Testing and treatment of sex partners	<p>Reduce barriers to testing and treating partners. Explore opportunities to diminish testing and treatment barriers for partners through methods such as accelerated partner therapy and the implementation of accelerated partner therapy hotlines and pharmacies (39). These methods are currently being trialled in the UK and evidence suggests that accelerated partner therapy increases partner treatment and reduces rates of STI reinfection (121).</p>

S.T.I. prioritisation planning tool

The S.T.I. prioritisation planning tool outlined in [Figure 14](#) provides a structure to consider the 3-stage prioritisation process (S.T.I.: Situation, Target Groups, Interventions) outlined above. This should be worked through by population group and STI. Recommended actions are provided for different scenarios to assist in making prioritisation decisions.

Figure 14. S.T.I. prioritisation planning tool

Situation: consider whether there is need, demand and supply						
(where action is to increase supply, this may require reduction elsewhere)						
Need?	Demand?	Supply?	Recommended action			
Yes	Yes	Yes	Continue to supply services			
Yes	Yes	No	Increase supply			
Yes	No	Yes	Continue to supply services and increase demand			
Yes	No	No	Increase supply and demand			
No	Yes	Yes	Deprioritise service supply, but work to lower demand			
No	Yes	No	Work to lower demand			
No	No	Yes	Deprioritise service supply			
No	No	No	Continue to deprioritise service supply			
Target groups: consider what your overall aim is for the target population and STI						
Reduce harm?	Reduce inequalities?	Reduce rates?	Recommended action			
Yes	Yes	Yes	Priority group 1: high priority for targeted outreach and access to services to prevent serious harm resulting from STIs and reduce health inequalities within the community			
Yes	Yes	No				
Yes	No	Yes				
Yes	No	No				
No	Yes	Yes				
No	Yes	No				
No	No	Yes	Priority group 2: medium priority for targeted outreach and access to services to reduce rates			
No	No	No	Priority group 3: offer services to a broader population, emphasising importance of open access service provision			
Interventions: Part 1: review interventions (consider effectiveness, impact, cost-effectiveness and delivery.						
Does it work?	Does it add value?	Is it cost effective?	Is delivery optimised?	Recommended action		
Yes	Yes	Yes	Yes	Prioritise intervention		
Yes	Yes	Yes	No	Consider if there is a way to improve delivery		
Yes	Yes	No	Not applicable	Consider if a more cost-effective option available		
Yes	No	Not applicable	Not applicable	Consider if more impactful interventions are available		
No	Not applicable	Not applicable	Not applicable	Consider other interventions		
Part 2: identify the final suite of interventions under each of the 7 domains (listed below)						
Education and empowerment	Condom use	Biomedical interventions	Diagnostics	Testing, screening and retesting	Treatment	Partner notification

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Abbreviations

Abbreviation	Meaning
ADPH	Association of Directors of Public Health
AMR	antimicrobial resistance
BASHH	British Association for Sexual Health and HIV
DGI	disseminated gonococcal infection
dPEP	doxycycline post-exposure prophylaxis
ePN	electronic partner notification
GBMSM	gay, bisexual and other men who have sex with men
GUM	genitourinary medicine
GP	general practice
HAV	hepatitis A virus
HBV	hepatitis B virus
HES	hospital episode statistics
HIV	human immunodeficiency virus
HPV	human papillomavirus
HSV	herpes simplex virus
IMD	Index of Multiple Deprivation
JCVI	Joint Committee on Vaccination and Immunisation
LGV	lymphogranuloma venereum
NCSP	National Chlamydia Screening Programme
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
ONS	Office for National Statistics
PHE	Public Health England
PID	pelvic inflammatory disease
PN	partner notification
POC	point of care
PrEP	pre-exposure prophylaxis
SHS(s)	sexual health service(s)
SHNA	sexual health needs assessment
STI	sexually transmitted infection
STIs	sexually transmitted infections

Abbreviation	Meaning
TOC	test of cure
TFI	tubal factor infertility
UKHSA	UK Health Security Agency
WHO	World Health Organization

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