

## Understanding the cost of quality within an online sexual health service

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### Introduction

Online services are increasingly part of the health economy (NHS Digital, 2014). It is anticipated that they will increase convenience and choice and reduce cost in public health services (NHS, 2019). Sexual health services have been an important area of online service innovation and growth (Wilson et al., 2017; Escourt, 2017). Most areas of the UK now have an online offer for testing for sexually transmitted infections and there is an emerging evidence base to support the acceptability and effectiveness of this approach (Wilson et al., 2017).

A recent House of Commons Health and Social Care Committee enquiry into sexual health services identified geographical variation in access to high quality services and recommended the development of a national strategy for sexual health that sets out clear national quality standards for those commissioning sexual health services (House of Commons, 2019)

Economic evaluation of online sexual health services is limited. Where this does exist, it focuses on comparisons of the cost of online and face-to-face services assuming that these services operate separately (see for example, Smith et al., 2007; Blake, 2015) rather than as a system where users move between modalities of care (see for example, Turner, 2018). None of the economic evaluations of online services to date consider quality of care within online sexual health services. The recent publication of joint standards from the Faculty of Sexual and Reproductive Health Care and the British Association for Sexual Health and HIV offers new opportunities to do this (FSRH/BASHH, 2019). These standards provide a quality benchmark for online sexual health services and an opportunity to identify the core elements of high quality service provision that would require costing in any future economic evaluation and should be considered when commissioning services. We completed an analysis of those elements of the quality standards that have significant cost implications for online service development and provision. We note that many of these quality indicators are not routinely considered when developing standard costs for clinic-based services and this paper is intended as a resource for those planning to cost or commission such services.

### Methods

Our analysis is based on an online test for genital chlamydia, gonorrhoea, HIV and syphilis (T4). This is the standard offer recommended by the British Association for Sexual Health and HIV (BASHH) for individuals with a 'sexual health need' (BASHH, 2019). We mapped the pathway for delivery of T4 combining the pathways from a number of different online services to generate a simple composite pathway and then applied the national standards specified by BASHH and the Faculty of Sexual and Reproductive Health Care (FSRH) to each element of this user journey (FSRH, 2019). This process enabled us to generate a list of cost areas that should be considered in developing standard costs for online sexual health services. We focused specifically on costs that we thought would not be present within standard NHS cost analyses. Throughout this analysis we assumed basic standards, for example service registration with appropriate regulator.

### Results

Figures 1a and 1b show the T4 testing pathway and the quality standards mapped to this. On this basis, we identified key areas of the journey where quality is particularly important and which should be a focus for appropriate costing of online services. These are: user completes risk assessment and ordering; clinical management of concerns identified through initial assessment process (including safeguarding concerns); support for sample collection by users; provision of HIV reactive results.

Figure 1a

Simplified Cost Profile: SH:24

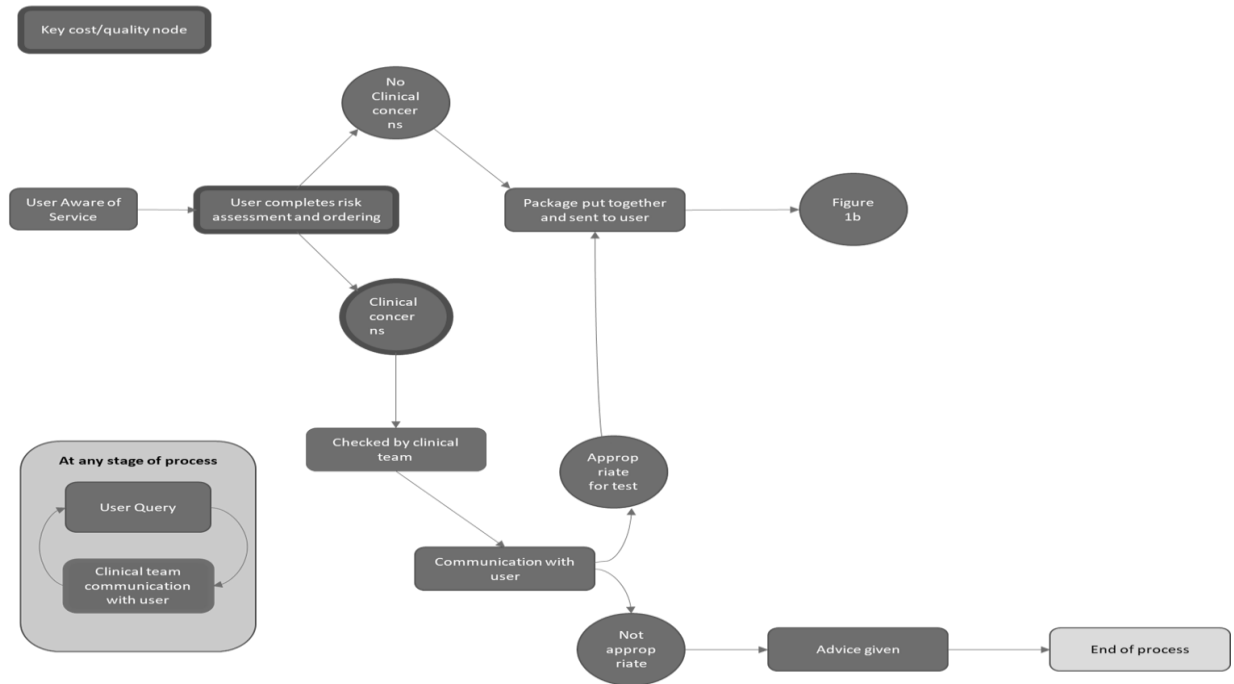
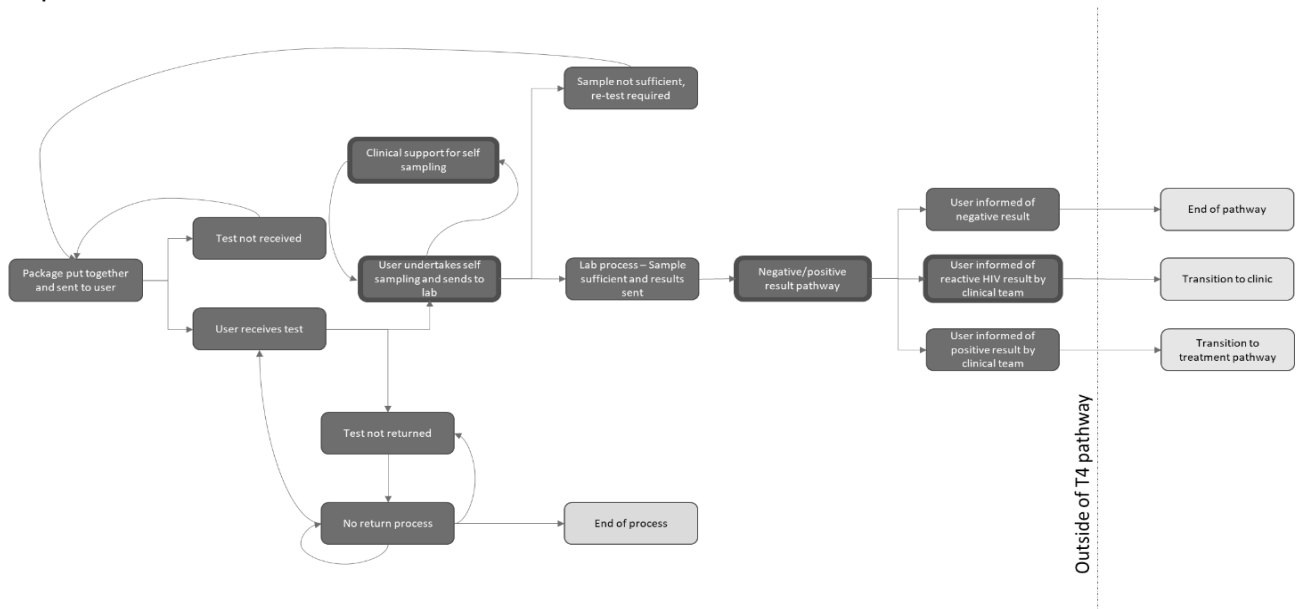


Figure 1b

Simplified Cost Profile: SH:24 1b



This is further illustrated by Table 2 below which links each stage of the journey to the specific standards relevant to that stage which might have cost implications, with a focus particularly on those costs that might not be present within standard NHS pathways.

**Table 2: Quality standards relevant to each stage of the online testing journey linked to cost implications**

Pathway stage	Quality standard	BASSH (2019) Standard	Cost implications	Type of cost
User aware of the service	Adherence to the UK Code of Non-broadcast Advertising and Direct & Promotional Marketing code (CAP code), with regard to relationships with pharmaceutical companies and advertising of their products.	2.5	Effective online communication about the service will require investment in high quality website development for clear communication of the range of services on offer, who should use these services and where to go for alternatives. It will also require investment in the development of clear pathways between the online and face to face service.	Overheads Variable. Development cost with maintenance.
	Online service providers should make it clear what treatment/care is available via the online service and what is not available with appropriate signposting to other services, particularly for rapid access to emergency contraception and post-exposure prophylaxis.	3.1.2	Ensuring that this communication is available in formats that promote diversity, maximize access for those who speak different languages and for people living with disabilities will require investment.	
	Online services should conform to the World Wide Web Consortium on access for people with disabilities.	3.1.1		
	The content and layout of the user interface should promote diversity and not discriminates against any protected characteristic. This includes recognition of diverse sexual orientation and gender identities.	4.1.3		
	Websites and applications should be easy to use and neither directly or indirectly discriminates against those with poor digital literacy; safeguards include the use of clear English, clear site structure and unambiguous site navigation.	4.1.4		
	Digital support must be available on the website for service users to obtain additional explanation or information.	3.4.1		
Patient completes risk assessment and ordering	Limit and manage risk associated with remote consultations.	1.2	Development of appropriate digital interfaces to obtain valid consent and assess capacity.	Overheads Variable. Development cost with maintenance.  Clinical staff costs.
	Safeguarding assessment with follow up and transition to face to face care as appropriate	1.2	Clinical resource to manage assessment of safeguarding risk and appropriate referral and follow up.	

	<p>Obtain valid consent and assessing capacity</p> <p>Management of risk and performance</p> <p>Safety checking of digital tools/symptom checkers</p> <p>Digital security certification and testing</p> <p>Obtaining informed consent in a remote service.</p>	<p>2.1/2.2</p> <p>1.4</p> <p>1.4.3</p> <p>1.4.14</p> <p>2.1</p>	<p>Staff training to understand and manage risk associated with remote consultations.</p> <p>Maintenance of appropriate digital security certification and testing</p>	<p>Staff training to take on new roles e.g. remote clinical care that are not included in standard NHS training programmes.</p>
Testing kit and instructions packaged and sent	Products sent by post must be sent in a discreet, non-identifiable package so that no one but the recipient will know what the package contains.	3.5.4	Cost of sourcing appropriate packaging. Additional considerations that are not mentioned in the guidance are biodegradability of packaging or size of package for ease of delivery.	Variable and ongoing cost of appropriate packaging.
User self-samples and sends to laboratory	No specific standards relating to this step.		The standards do not comment on quality in this area but modelling of services shows that kit return rates have a small but important impact on the cost effectiveness of online services (Turner et al., 2018). Kit return rates are thought to be influenced by usability of the test kits and the quality of the instructions and support. This suggests that investment in these areas could be important.	Overheads Variable. Development cost with maintenance.
Results	Providers of online or remote SH/ SRH <sup>1</sup> services may or may not be the same organisation which provides the face-to-face SH/ SRH service for any specific location. It is the online service provider's responsibility to ensure that the pathway between the face-to-face and online and remote services is well supported and does not put the service user at a disadvantage if they need to move between the two types of service.	4.1.1	Clinical staff to give reactive HIV results by telephone, to provide clinical advice and signposting for those who are symptomatic, to offer partner notification and to support transition to sexual health services as required.	Clinical staff costs. Staff training to take on new roles e.g. remote clinical care that are not included in standard NHS training programmes.

<sup>1</sup>Sexual health/sexual reproductive health

## Discussion

By mapping the user journey for an online T4 sexual health test to the quality standards specified by the professional bodies within sexual health, we have identified priorities for further work on costing online services. As far as we know this is the first attempt to map the possible cost of quality standards within online sexual health service provision.

The results highlight the key cost areas of the online service and could contribute to sensitivity analyses for future costing work in this type of service. In-person NHS services can be potentially costed using the *Unit Costs of Health and Social Care* (Curtis, 2018), and NHS reference costs (NHSI, 2018), however the emergence of online services creates new types of cost and costing profiles. Both running costs and capital expenditure are less well characterised for online services than face-to-face care. Much of the development of these services has taken place outside the NHS and much of the data on costs is commercially sensitive making it more challenging to understand their components and prices. Whilst online services share many of the same responsibilities and requirements of a physical service our analysis shows where the costs differ and the lack of published resources to estimate the costs in this sector.

The development of online services within the NHS requires a different skill mix and there is limited guidance from the NHS on the banding or costing of many of the unique roles required, with current salaries influenced by local market factors given the value placed on them in the UK and international private sectors.

Finally, online services offer new challenges for managing volumes of activity. Traditional services are limited by the number of appointments available whereas demand management in online services requires new strategies. The commonest approach currently adopted is capping the number of tests available each day. At present we do not know the implications of this strategy for equity of access, particularly for vulnerable groups. Further work is required to understand these implications.

## Conclusion

There is a lack of evidence around the costs of a high quality online service. The published evidence to date suggests that it is important to consider the cost-effectiveness of online services in terms of their impact on the costs and outcomes of whole systems of sexual health care (Turner, 2018). Our work highlights key areas where sensitivity analysis of quality standards on costs of online services should be undertaken. As digital services are increasingly part of NHS care we need to specify the cost of new staff roles (e.g. designers and developers) and new staff training (e.g. the management of remote consultations) in order to understand the cost-effectiveness of these new service modalities.

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