Developing and using the eClinical Care Pathway Framework: a novel tool for creating online clinical care pathways and its application to management of genital chlamydia

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Introduction

Home STI diagnostics create potential for online treatment. People could self-diagnose with a new infection, follow an automated online medical consultation, leading to electronic prescription of antibiotics and management of sexual partners. This could occur completely remote from traditional services. **Currently there is no guidance on the development or content of online clinical consultations and, particularly, no recommendations relevant to sexual health.** We describe the creation of a new framework for developing complex online clinical care pathways and its application to management of people with genital chlamydia.

Methods

We used and adapted relevant literature on online clinical consultations; protocols and proformas in use in contemporary sexual health settings; national clinical standards; knowledge from existing results services; and sexual health questionnaires. From this we developed the *eClinical Care Pathway Framework* consisting of a nine-step iterative process. We then applied the Framework to create the *Chlamydia Online Clinical Care Pathway (Chlamydia-OCCP)*.
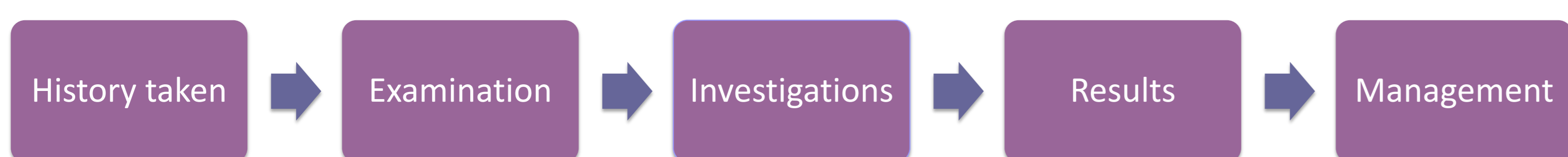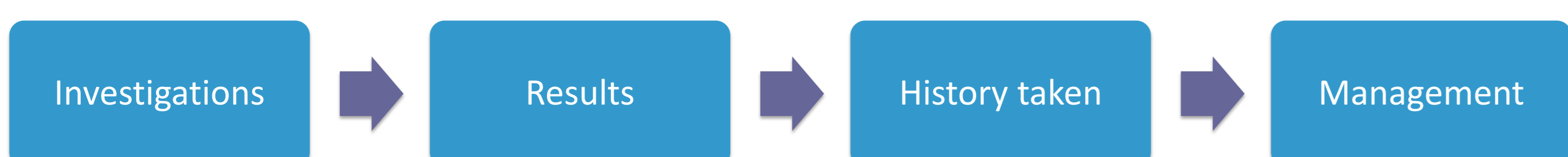
Step 1: Define the aims of the online clinical care pathway

Step 2: Define the functional units & their sequence within the clinical care pathway

Step 3: Draft the online clinical consultation

Step 4: Expert review

Step 5: Comprehension testing

Step 6: User-centred interface testing

Step 7: Specification development

Step 8: Usability testing and further comprehension testing

Step 9: Piloting the online clinical care pathway

Results

Step 1: Aims of the pathway were identified including ensuring that it was safe to prescribe azithromycin using the *Chlamydia-OCCP.*

Step 2: Use of the Framework clarified the sequence of functional units of care, which is fundamentally different to traditional care pathways:
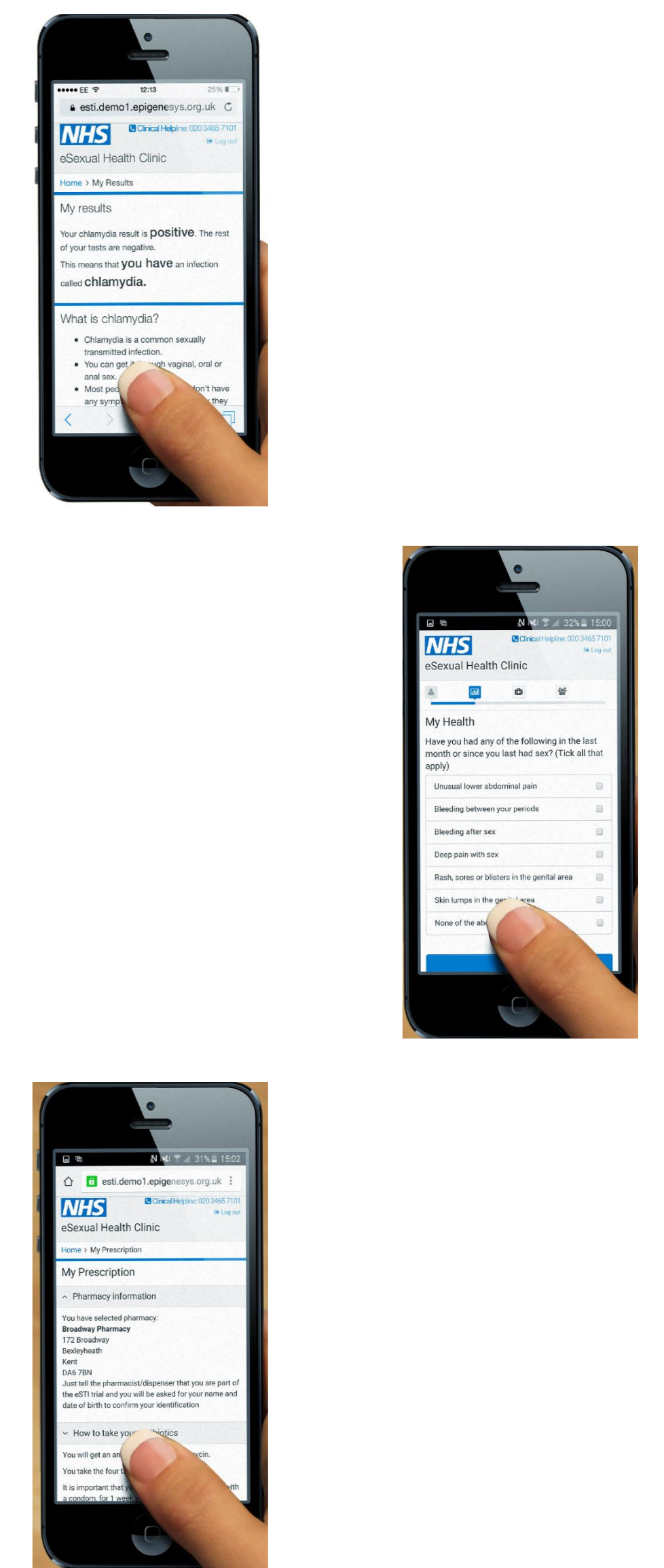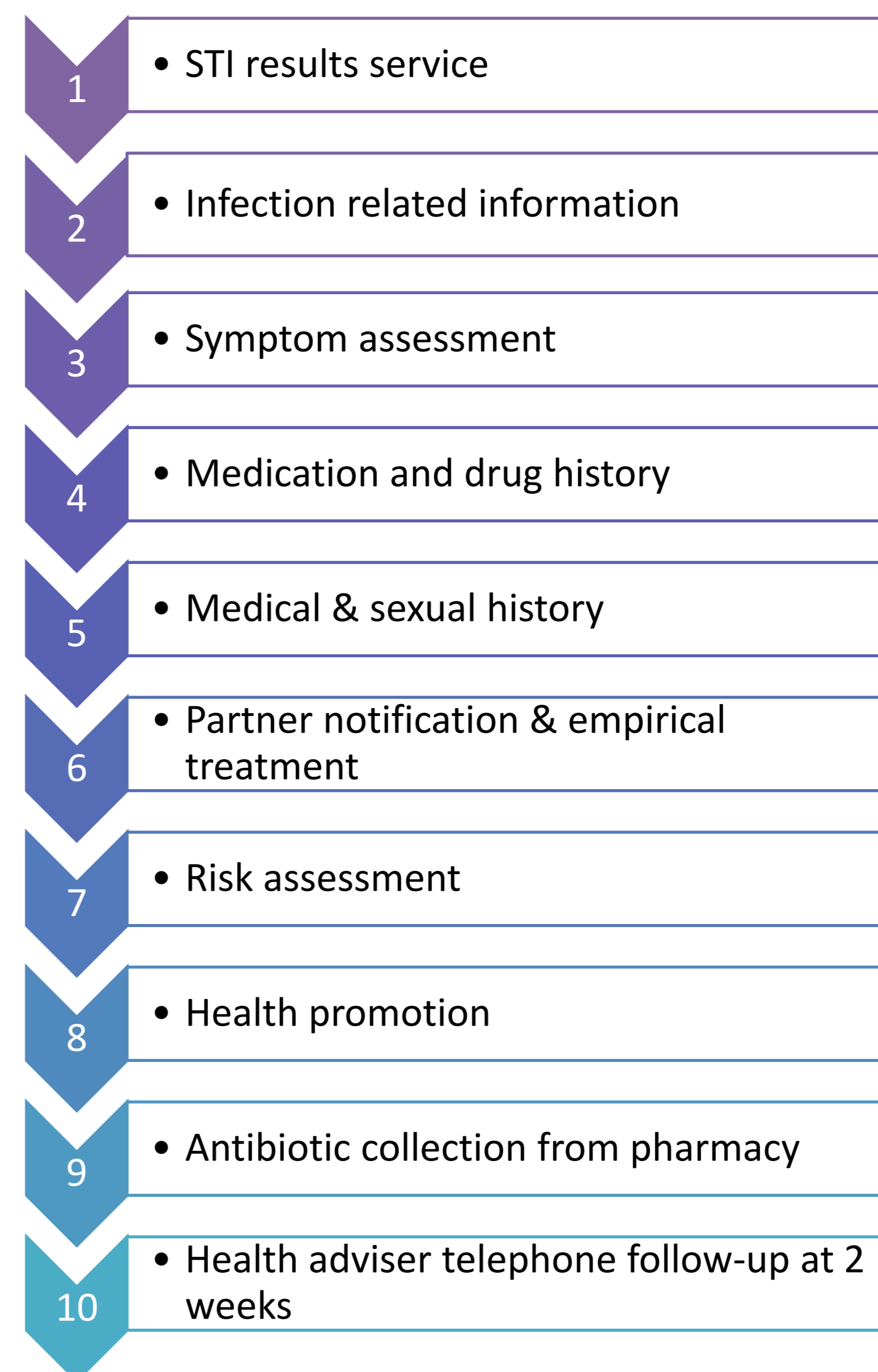
Traditional pathway

History taken → Examination → Investigations → Results → Management

Online pathway

Investigations → Results → History taken → Management

Information on chlamydia is provided early in the pathway to allay anxiety before the online consultation is initiated. This is followed by collection of antibiotics from a community pharmacy as shown below:

1. STI results service
2. Infection related information
3. Symptom assessment
4. Medication and drug history
5. Medical & sexual history
6. Partner notification & empirical treatment
7. Risk assessment
8. Health promotion
9. Antibiotic collection from pharmacy
10. Health adviser telephone follow-up at 2 weeks

Step 3: Establishment of the objective and evidence-base for each stage of the *Chlamydia-OCCP* to formulate a decision. Skip questions were employed so that users only had to answer questions directly relevant to the decision about their care. For example, this enabled a more focussed approach to the assessment of the safety of antibiotic prescribing. Findings and feedback from **Steps 4-9** led to amendments to Step 3 in an iterative process which ensured the optimisation of the *Chlamydia-OCCP*.

Conclusions

By following each step of the Framework, the *Chlamydia-OCCP* has a different sequence to traditional care pathways and is adapted to the needs of remote testing and online care. It provides the clinical services and surveillance functions required to meet UK national standards. The *Chlamydia-OCCP* collects standardised easily extractable data with potential for interoperability with other systems, thus becoming a powerful tool for public health and clinical management.

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