Final report

August 2017

Innovating for Improvement

Electronic Partner Notification – ePN (2634)

Chelsea and Westminster Hospital NHS Foundation Trust

The Health Foundation

About the project

Project title: Electronic Partner Notification - ePN

Lead organisation: Chelsea and Westminster Hospital NHS Foundation Trust

Partner organisation(s):

OCB Media

Society of Sexual Health Advisors (SSHA)

British Association of Sexual Health and HIV (BASHH)

Project lead(s): Ann Sullivan and Caroline Rae

Contents

Part 1: Abstract

ePN (electronic Partner Notification) is a novel, web based programme designed to replicate the clincal process of partner notification for Sexually Transmitted Infections (STI). This is a key process in managing STIs and addressing the public health impact of onward transmission and reinfection. ePN has been implemented in two clinics during this project. The frist tier of staff have been fully trained and are now offerring it to all eligble patients they see. For those patients in whom it is appropriate it has been an effective intervention, resulting in improved process outcomes and STI diagnoses. The project has been heavily dependent on various IT systems and capacity and this would be a key enabler to any spread to other serivces. High level organisational support, strategic value and a culture of innovation and early adoption culture have all assisted in the implementation of this programme. ePN will continue to be used in these two clinics with planned spread to the other GU serivces within our Trust.

Part 2: Progress and outcomes

A key aspect of the management of sexually transmitted infections (STI) is the process of partner notification (PN) whereby sexual contacts of the index patient are informed of their potential exposure so they can access testing and treatment. This is typically delivered by Health Advisors (HA) in Genito-Urinary Medicine (GUM) clinics, who facilitate PN by giving the index patient a contact slip to give to their partner/s (patient-delivered PN) or deliver the PN themselves (provider PN). Outcomes are currently obtained via repeated phone calls to patients, contacts and other services. This is inefficient, resource intensive and has poor outcomes nationally and locally, with huge variation across services.

ePN is a novel, web-based programme which automates much of the above process, remaining under patient control if preferred. Using the index patient's mobile number as the identifier, it delivers PN via SMS messaging, updating diagnoses, capturing verified and contact reported clinic attendance and reminding contacts to attend.
Our aim was to introduce ePN as a standard PN option sequentially in the three GUM clinics in our service, with the majority of patients diagnosed with an STI being offered ePN by August 2017. To achieve this we intended to:

- Train staff (Health Advisors and nurses) across the three clinics and develop and pilot an online training module. The latter is still in progress. All the Health Advisors (primary target staff group) at two of the three clinics have been fully trained. The online training module will be tested at clinic 3 to fully evaluate it as only one staff member at that clinic (the senior HA) has been exposed to ePN. To date the feedback from HAs has been extremely positive apart from the extra time required in clinic for data entry (due to having to use two systems currently) and the data collection required for this project (see later). This resulted in some staff entering the data at a later time point, which needed to be addressed as part of a PDSA (ongoing) so as to more fully integrate it into the standard patient pathway. We have not therefore rolled out access to nursing staff as we need to further improve the system and the way it is applied.

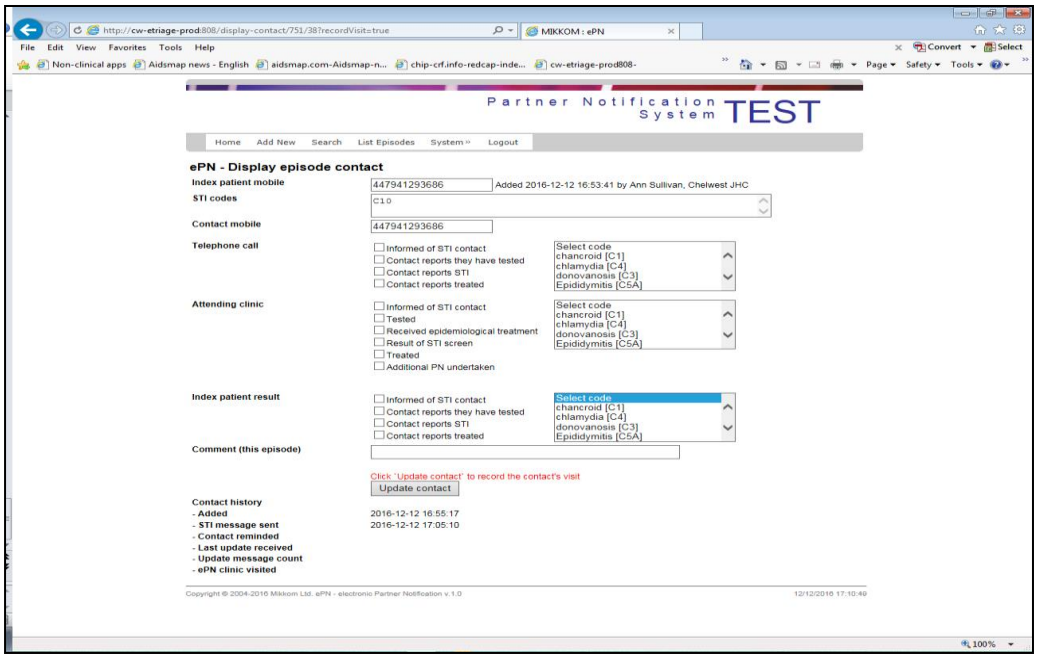
- The first two clinics' HA teams are fully engaged. We decided to defer roll out to the third clinic due to a number of factors: desire to fully test the e-learning module, external factors as described elsewhere (commissioning issues, tender process) and the fact another IT innovation was being introduced/embedded at that clinic. Another clinic within our organization has expressed a keen interest to be involved and we may expand to that clinic in the interim.

- Increase the offer rate through QI methodology –PDSA, run charts, sustainability work etc. This has been achieved by a weekly meeting (face to face and TC) to design interventions, review data and impact. These meetings are attended by the leads, the senior HAs (3 clinics) and other members of the HA teams (2 clinics, when available), IT administrator, senior IT co-ordinator (first part of project only, as acting-PM).

- Improve outcome capture by ePN system – successfully achieved (see below)

There have been recent changes to sexual health commissioning, moving to local authorities as part of the changes under the Health and Social Care Act 2012, and this has resulted in many services' key performance indicators (KPIs) now including PN outcomes. Part of the planned improvement to the ePN was to enable these outcomes to be captured and reported. This will allow replacing the current manual audit based assessment of PN KPIs with an automated ePN report.

This has been successfully developed and included in the new version of ePN, see screen shot below. This utilsed an alternative funding source.



We used a variety of sources to inform the monitoring and evaluation of the programme. To determine the coverage (i.e. offer rate) and uptake we initially used the ePN report alongside HAs keeping a personal log. The latter proved a significant barrier and we therefore developed new codes for HA to apply depending on the outcome of the PN discussion with a patient (see later). The denominator (i.e. number of patients diagnosed with a STI making them eligble for ePN) is obtained from our main clinic EPR system (Lille) via Crystal Reports based on STI diagnostic codes. The outcomes (message received, contact attendance and clinical outcomes) are currently obtained by a summary report of the database download and interrogation of the clinics' main EPR. An automated report is currently being developed with Mikkom, with all variables agreed. Staff views are obtained at the weekly meeting. A patient questionnaire on the patient information sheet and text message content is being delivered and direct feedabck via SMS of both index and contacts is planned.

Specific factors delaying progress

There have been a number of factors both external and internal that have resulted in significant delays to the original timeline. At the outset, key members of the team - the project's lead Health Advisor and project manager had to be replaced at short notice. Subsequently, as at the time the prime tasks were IT-related, a senior Directorate IT team member was assigned (1 day/week) to our project as PM, with significant positive impact.

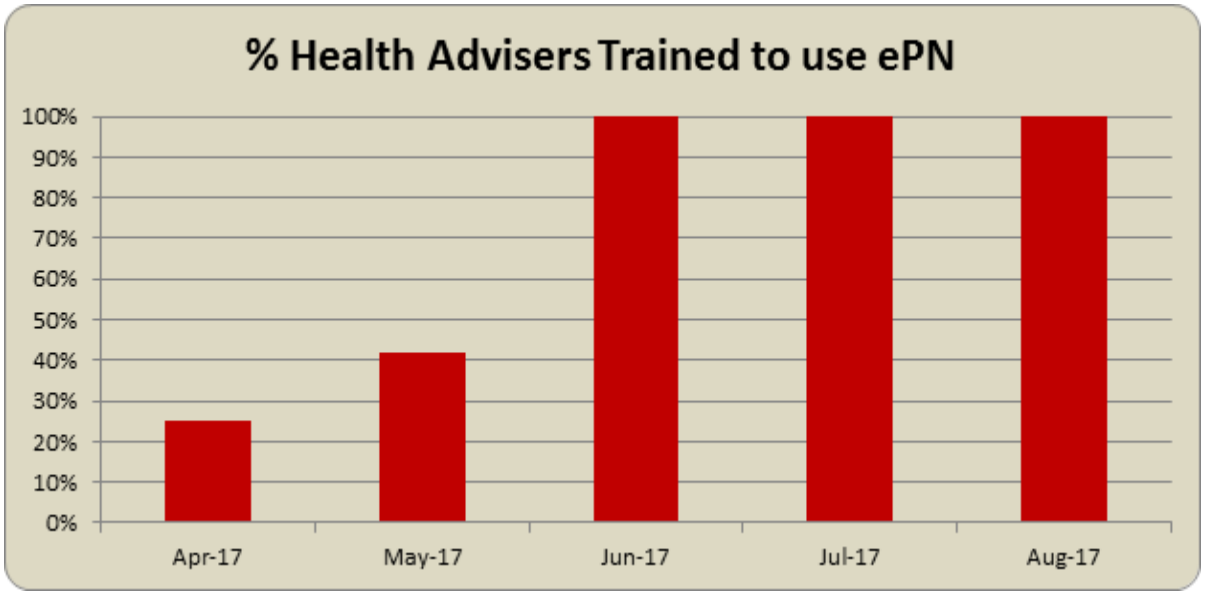
Since commencement of the project our sexual health services (where ePN is sited) have been put out to tender.

Subsequent to the planned improvements to the clinical part and security features of ePN we were required to re-test the ePN system's security, introducing further delays.

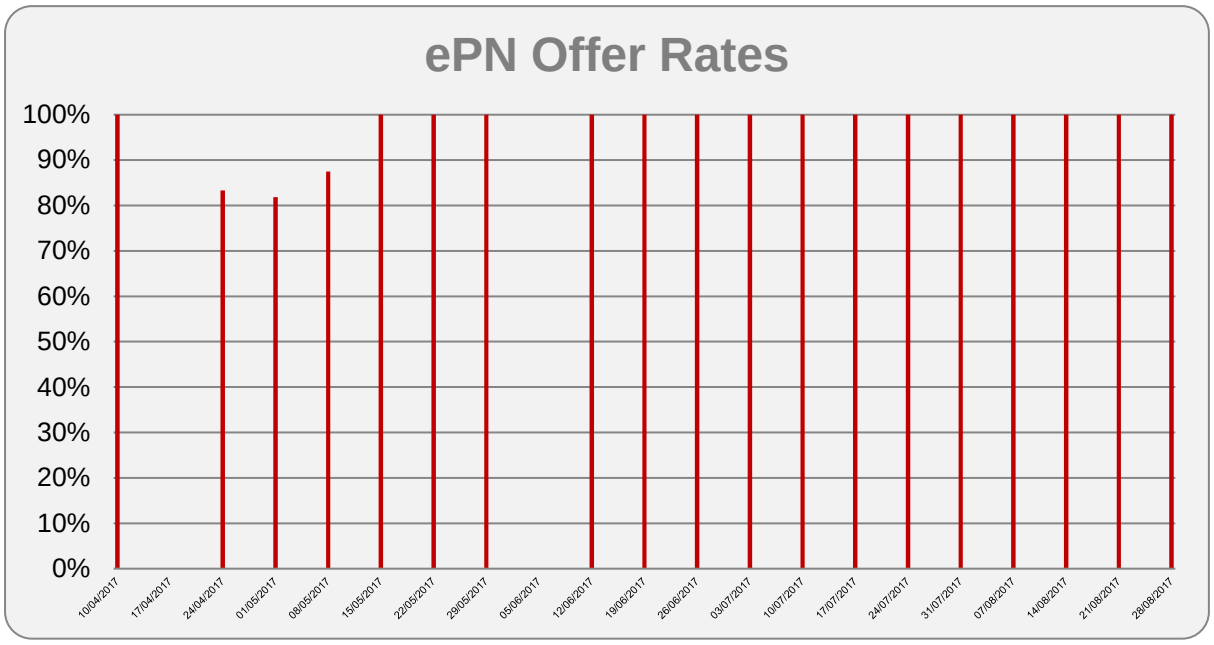
In addition, subsequent to the start of the project, the Trust appointed a new third party IT service supplier. Therefore, we had to liaise with a new IT team who were taking over responsibility for supporting the ePN system.

Impact

All HAs in clinics 1 and 2 are now trained to use ePN



ePN offer rates as reported on individual HA logs (12 by June):

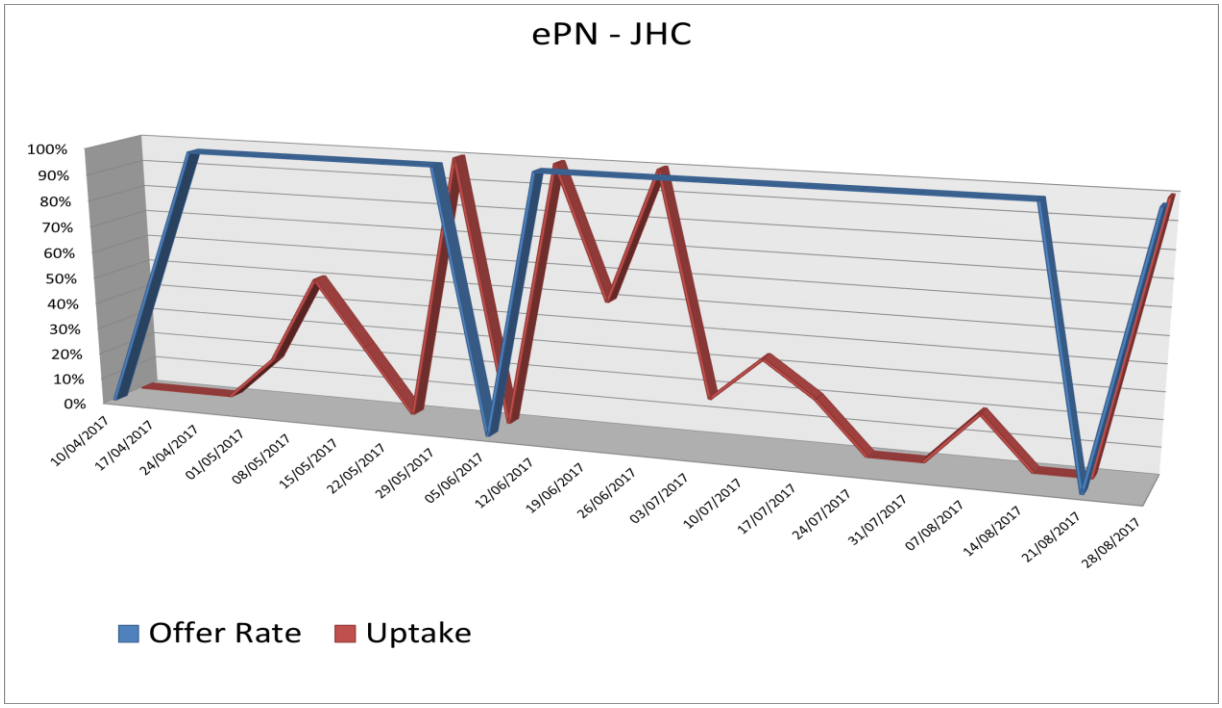


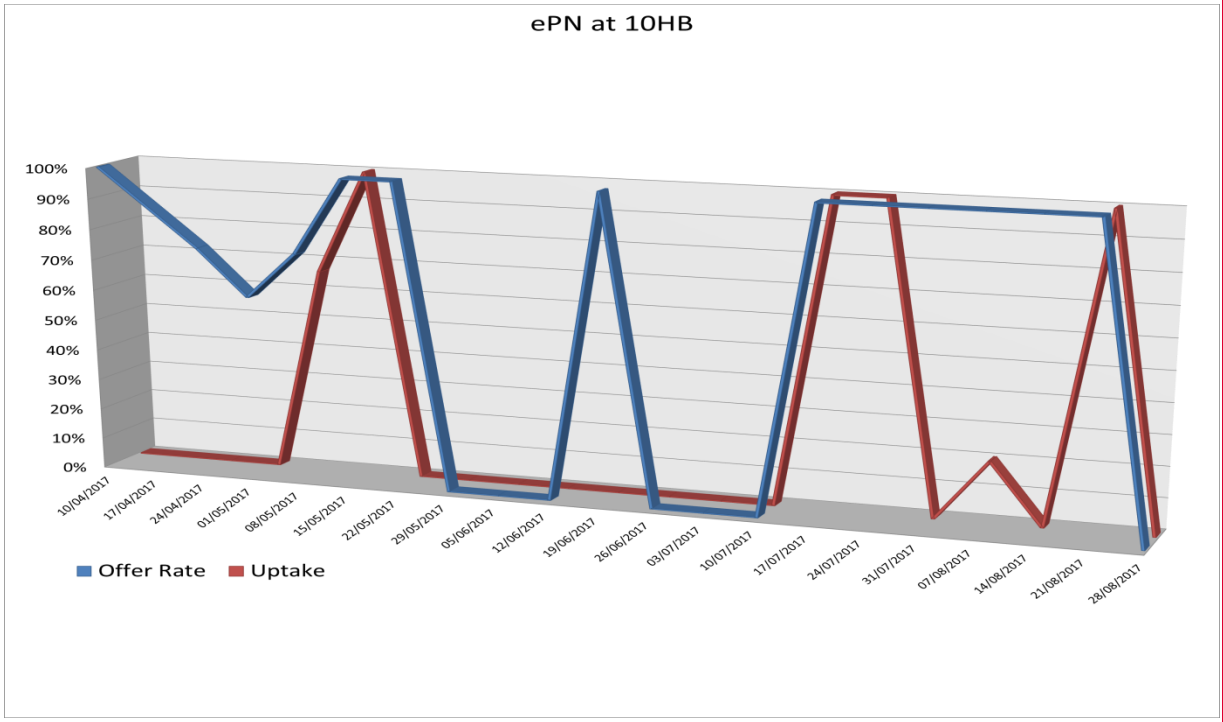
This system (above) of capturing offer rates has now been modified, as suggested and designed by the HAs. The new systems uses new codes adapted from the standard GU reporting system to capture ePN activity:

- PNED – patients offered and declined ePN
- PNEA – patients offered and accepted ePN
- PNENO – patients not offered ePN
- PNENE – patients offered, not eligible for ePN

This formed the basis of one of our PDSA cycles, which while reported by HAs to be acceptable and successful is currently undergoing formal evaluation.

ePN offer and uptake rates at the 2 clinics:





We plotted the offer rates and uptake for each project site separately, revealing that implementation is variable and still quite dependent on the individuals involved. This is the focus of our ongoing sustainability work. It was also affected by leave and activity levels, reinforcing the need for it to become part of standard care and fully integrated, rather than an ‘extra’ and hence more likely to be omitted when capacity is stretched.

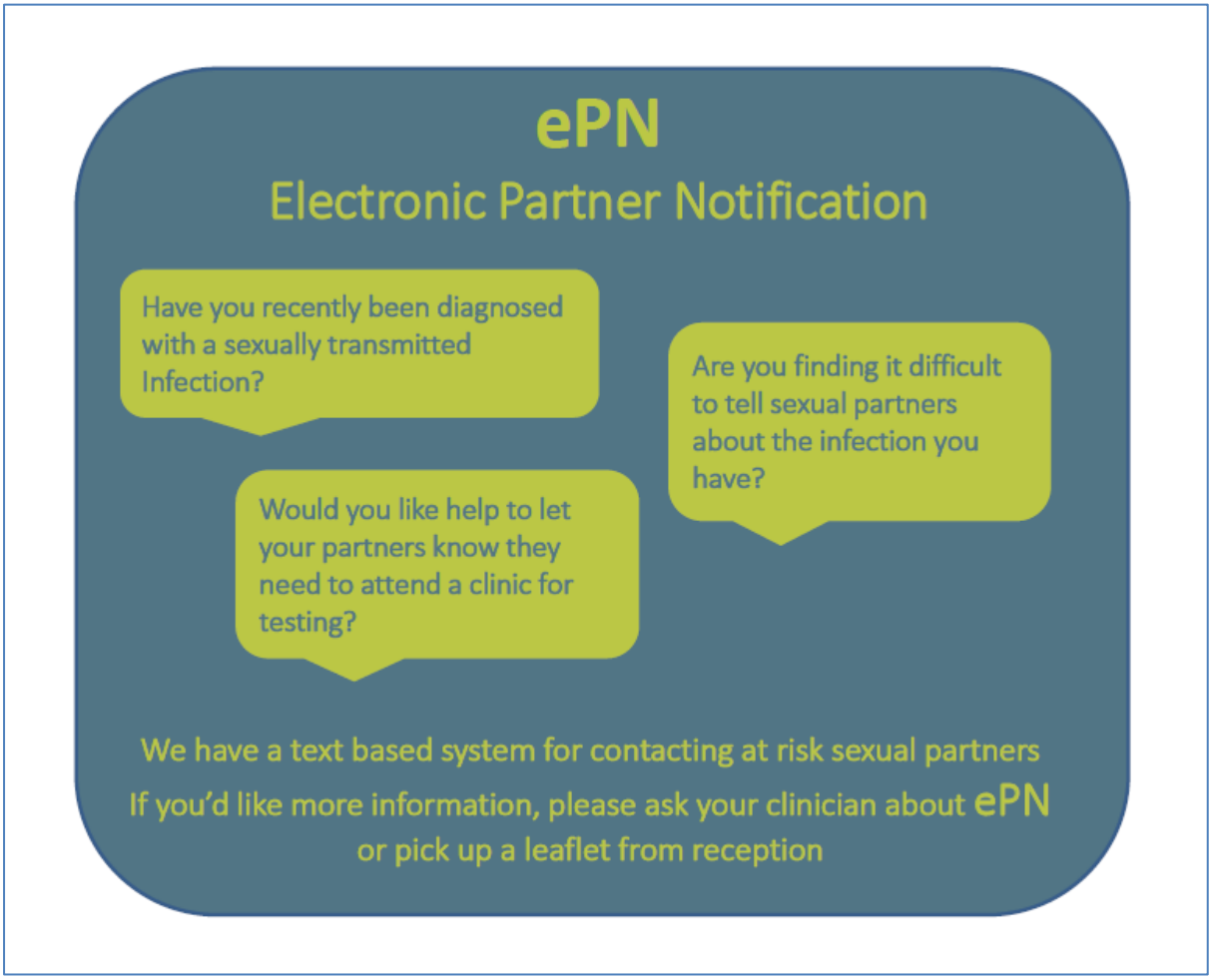
Between April and August 2017, 133 index patients were seen by ePN-trained HAs. Of these 129 were offered ePN (97%, target achieved); 68 were ineligible as 53 had already notified their partner and a further 15 had no contact details for their contacts. Another 32 declined ePN, with 27 of these preferring to inform their partner directly themselves.

The 29 patients (48%) who accepted ePN provided details of 65 partners. The outcomes of these contacts (as determined via ePN and clinic EPR systems) are: 0.72 contacts per index patient verified as attending clinic (standards vary depending on the STI but typically 0.4-0.6) and reported as attended was 0.86 per index case (standard typically 0.6). Many services struggle to meet the minimum standard, and these results are a significant improvement on the overall performance of these 2 services as reported in the PN KPIs.

We identified a number of reasons for poor uptake of ePN. A major one was patients being unaware of the system prior to self-initiating PN. We are addressing this by more prominent information being provided to all patients for e.g. via the waiting room screen (see below). Additionally, a number of HAs were not clear of the 'registration' function of ePN to capture outcomes etc. without the requirement for sending SMS to contacts.

Of the 21 confirmed attendances 13 (62%) were diagnosed with an STI, demonstrating significant individual and public health benefit.

ePN information page displayed on screens in GU clinics' waiting rooms:



An example of positive patient feedback given over the phone to our clinic manager:

'*The guy on the phone was really nice and told me about the infection and was really helpful. He told me that you could send a confidential text message to my partner if I brought the details when I came in and I was reassured that it would remain anonymous. He was really professional and explained the electronic partner contact system to me so please say thanks'*

Part 3: Cost impact

Partner notification is part of the clinical care delivered within our GU services, which are commissioned by Local Authorities and attract “Payment by Results” payments; this is a flat rate for attendances (less for follow up attendances) and does not account for complexity or staff time required.

Partner notification is time intensive and can be inefficient; significant time is spent contacting index patients, their contacts and other GU services to verify attendances. This work is often done by senior staff, reducing their available clinical time.

Therefore, although not yet fully evaluated, we expect cost savings to our Directorate by making the system more efficient and automating aspects of delivery/capturing outcomes. It is difficult to determine conventional PN costs as there is no data available with sufficient granularity. PN is embedded within consultations covering many facets of care and Health Advisors do not record the time devoted to different tasks. Assessment by those involved of the time taken for routine PN *vs* ePN, was to describe a process taking ~5-15 minutes on multiple occasions over days to weeks, compounded by multiple unanswered phone calls (standard) as compared to a process taking 5 minutes in clinic and occasional calls from contacts seeking information (ePN). As part of our sustainability plan, during the set-up phase we collected baseline data on the amount of time taken for routine PN and estimated delivery costs. We have not yet carried out a comparison time study for ePN as we have until very recently required HAs to do extra work related to data capture for ePN which would skew results.

An additional financial benefit is that by supporting the achievement of the Commissioner’s KPIs, we will help protect the Trust’s income.

As expected, ePN implementation has not resulted in work or costs moving to another department or service.

There have been implementation costs mainly in terms of staff time for training and the weekly meeting. Once ePN is more established the weekly meetings would be absorbed into the weekly team meetings that currently exist for the routine service. The training delivery costs will be removed once the online module is finalised.

Part 4: Learning from your project

Our aims were to enhance the ePN system to capture contact outcomes, to train relevant staff to use ePN, to develop an online training module to support that training, to implement ePN in 3 of our GUM clinics and to offer the majority of eligible patients access to ePN. We have had variable success in achieving these aims as previously described.

Where we have been successful there have been a number of factors underpinning that success. A major factor has been senior level buy-in through business case development and profile raising at strategic meetings. We have had significant support from our Divisional Director of Operations who championed the ePN project while our Directorate General Manager and has retained a keen interest in the project; seeking to influence factors beyond our team's control such as the engagement of the Trust's IT provider.

Another factor has been the professionalism and positive relationship with the IT company Mikkom; their responsiveness and help has been key in the significant improvements in ePN.

The engagement of all members of the HA teams at the two clinics has also been a key factor in the successes. Their willingness to adopt the new technology and provide positive criticism has led to a number of improvements. This is no doubt enhanced by the culture of innovation and early adoption within the GUM services generally. The team as a whole has benefited from inclusion in the weekly meetings, learning about QI, PDSA methodology etc.

The shift in commissioning to Local Authorities has also underpinned the drive for improvement in this aspect of GUM provision, with its increasing public health focus. The inclusion of PN KPIs in our services' activity reports has undoubtedly raised the profile and interest in PN across the board.

Chelsea and Westminster's HIV and Sexual Health Directorate employs patient champions to both represent patients' views and assist with service developments. Our current patient champion has a particular interest in sexual health services and he has provided feedback on the user experience and patient materials (ePN patient information leaflet, patient questionnaires and information screens being displayed in the GUM clinic waiting rooms). This process has additionally informed ways we can better utilise his expertise in other areas.

The specific challenges we faced were in two broad categories. Trust decisions to use a new IT supplier were out-with our control, but were addressed as much as possible by involving our Directorate's IT interim PM early in the process.

The second major challenge was lack of consistent programme management. This was largely due to unforeseen changes between the initial proposal and the activation. Our contingency consisted of the leads and team members picking up aspects of PM, but this was not wholly sufficient or satisfactory.

Compared to the ePN pilot in 2013, Health Advisors reported patients now seem to be more aware of and certainly more concerned about issues surrounding data security and can be reluctant to share their partners' mobile numbers for this reason. We have sought to directly address patient concerns about the process, confidentiality, and IT security in the ePN patient information leaflet.

We have found that there is a persistent issue in that a number of contacts attend clinics without explaining that they have been prompted to attend by an ePN text – or showing the text to the member of clinic staff as requested in the text message. We are considering ways in which we can address this, including contacting contacts to understand if there is any misunderstanding or lack of clarity about what is required of them. As a number of these patients have attended our third clinic, when that clinic is using ePN this will become less of an issue as the staff will be pro-actively asking patients about ePN. We are confident that we are picking up these attendances by manually cross-referencing the clinic EPR system with ePN, appropriate updating of the ePN system is our goal.

We remain keen to explore the acceptability of ePN across different populations (such as MSM and BME) and for different STIs.

<u>Specific learning on introducing and sustaining innovations in the NHS</u>

A consistent area of learning across all projects we are involved in is the importance of having timely, relevant, local data available. Making sure the data we are providing is measuring the right things and is accurate. Teams are always more effectively engaged by seeing their own data presented at a local level.

We have an awareness that situations can change between awarding of grant/funding and commencement of a project. There were several issues beyond our control which significantly impacted the project; relating to availability of staff covering key roles, IT support and external pressures which we have covered elsewhere. While this has been frustrating, it is also the reality we all face when running projects within the live environment of the NHS, which is by necessity focused on providing excellent clinical care to patients and often requires us to be adaptable and find alternative ways to achieve our goals. For example, as we were not able to have a dedicated member of staff to cover our Project Manager role, it has been covered by different people depending on the different stages of the project. When liaising with the IT team was a priority, we used a member of staff who had an IT background and an established working relationship with that team. When data reports were our focus we used a member of staff who had extensive experience of data collection and analysis to liaise with Mikkom. When the engagement and training of HA staff was the primary focus we engaged with the lead senior Health Advisor and a Consultant colleague with extensive education experience to lead on the project.

It has been particularly important to have protected time to review the progress and effect of any improvement interventions at the weekly Health Advisor meetings, monthly clinic meetings (for all staff) and weekly steering group meetings; the last

meeting includes cross-clinic representation to learn from each other's experience.

Reflections are based on PDSA cycles, with forms to complete (check list of questions addressing what, who, why it worked or why not, modifying/influencing factors). In addition to assessing changes in line with the various outcomes we also review patient feedback.
We also have individual discussions reflecting on what has worked and what has failed to deliver an improvement. We target early adopters and those who resist, to better understand potential barriers and levers.

We are currently working with our partner OCB Media to develop an online training tool for staff, with formal assessment and certification. At the moment, we are using the training package as a slide set while we explore the technical requirements of hosting an online training module on the Trust's IT system. We are planning to trial this training with the staff at our third clinic. We will specifically look at differences between staff groups and the impact of undertaking the training on delivery.

Part 5: Sustainability and spread

ePN will continue to be deployed across our sexual health services. It has high level support both within Directorate and Divisional management team and within the clinical teams. It was the focus of a successful business case to purchase the required server and undertake the described enhancements.

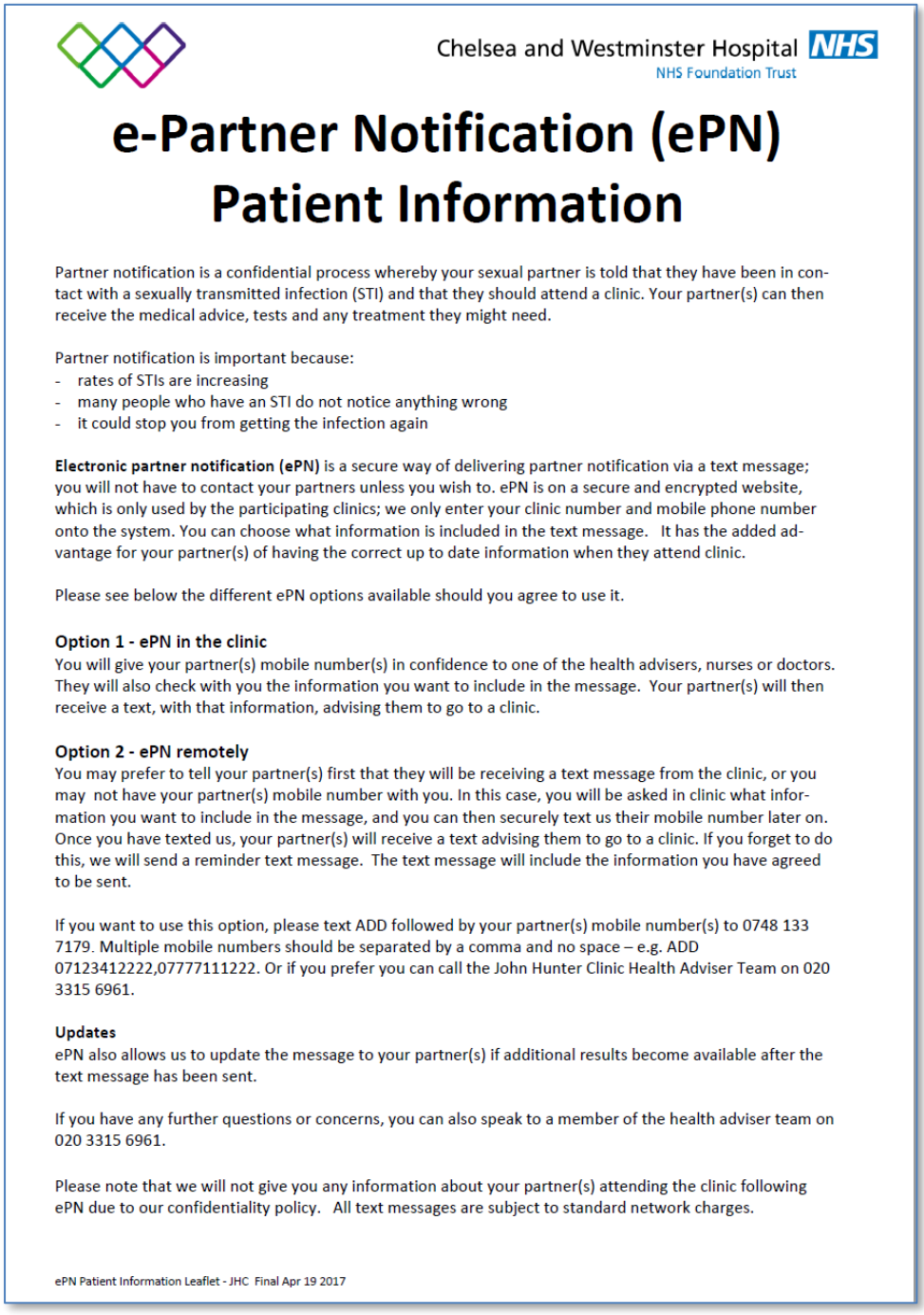
ePN data has been presented at Specialty Conferences, received support from our Specialty Society (BASHH is a Partner Organisation, ePN was formally presented to the Board) and has the full support of the clincial group most involved in PN delivery – SSHA (also a Partner Organisation). Following these presentation a number of services and clinicians have made contact requesting inclusion in any roll out.

If our request for extension is approved (utilising remaining Health Foundation budget), we would expand to another clinic within our service and we would finalise and produce the online training tool. This would provide the platform for opening access to other services external to our Trust. It is likely this would be done in partnership with Mikkom to provide technical support. The larger the network of clinics involved the more effective it will be in capturing outcomes. As the system replicates a standard, widely applied process it is likely to be easliy applied within other sexual health services, and there are no features specific to our service that would limit this spread. As it is a web based system it is not reliant on being able to integrate with any specific GUM EPR system; it is a standalone system and can be added to any clinic's suite of services. However integration with a clinic's EPR would be desirable and this would be a piece of development work (interface) a service would need to undertake (this could be done at IT provider level with sufficient service buy in). Furthermore it is likely it could be easily adpated for other serivces, e.g TB clinics, GPs etc.

The business model to deliver this roll out would need to be developed and we would need additional resources for this. Discussions about this are currently taking place internally.

Appendix 1: Resources and appendices

ePN double-sided patient information leaflet



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e-Partner Notification (ePN) Patient Information

Partner notification is a confidential process whereby your sexual partner is told that they have been in contact with a sexually transmitted infection (STI) and that they should attend a clinic. Your partner(s) can then receive the medical advice, tests and any treatment they might need.

Partner notification is important because:
- rates of STIs are increasing
- many people who have an STI do not notice anything wrong
- it could stop you from getting the infection again

Electronic partner notification (ePN) is a secure way of delivering partner notification via a text message; you will not have to contact your partners unless you wish to. ePN is on a secure and encrypted website, which is only used by the participating clinics; we only enter your clinic number and mobile phone number onto the system. You can choose what information is included in the text message. It has the added advantage for your partner(s) of having the correct up to date information when they attend clinic.

Please see below the different ePN options available should you agree to use it.

Option 1 - ePN in the clinic
You will give your partner(s) mobile number(s) in confidence to one of the health advisers, nurses or doctors. They will also check with you the information you want to include in the message. Your partner(s) will then receive a text, with that information, advising them to go to a clinic.

Option 2 - ePN remotely
You may prefer to tell your partner(s) first that they will be receiving a text message from the clinic, or you may not have your partner(s) mobile number with you. In this case, you will be asked in clinic what information you want to include in the message, and you can then securely text us their mobile number later on. Once you have texted us, your partner(s) will receive a text advising them to go to a clinic. If you forget to do this, we will send a reminder text message. The text message will include the information you have agreed to be sent.

If you want to use this option, please text ADD followed by your partner(s) mobile number(s) to 0748 133 7179. Multiple mobile numbers should be separated by a comma and no space – e.g. ADD 07123412222,07777111222. Or if you prefer you can call the John Hunter Clinic Health Adviser Team on 020 3315 6961.

Updates
ePN also allows us to update the message to your partner(s) if additional results become available after the text message has been sent.

If you have any further questions or concerns, you can also speak to a member of the health adviser team on 020 3315 6961.

Please note that we will not give you any information about your partner(s) attending the clinic following ePN due to our confidentiality policy. All text messages are subject to standard network charges.

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ePN Text Messages

Please see the various ePN messages below; we have used chlamydia as an example, but you don't have to name the infection if you don't want to.

Option 1 – Using ePN in the clinic

As you have given your partner(s) mobile number(s) to one of the clinic staff, your partner(s) will receive a text advising them to go to a clinic.

Text message 1

We are an NHS sexual health clinic. You may have been in contact with a sexually transmitted infection; chlamydia. It is important that you go to a clinic for tests and treatment. To ensure that you have all the up-to-date information, when at the clinic, NOT before, text UPDATE to 0748 133 7179 Show the clinic both messages. You can ring 020 3315 6961 if you think you have been sent this message in error.

When your partner attends a clinic and texts UPDATE as instructed they will receive the following message. This message may contain extra information depending on your final results

Text message 2:

Thank you for requesting an UPDATE. You have been in contact with chlamydia. Please show this new message to the staff at the clinic.

If your partner does not text update we will send them a reminder

Text message 3:

We sent you a message advising you to go to a sexual health clinic for tests and treatment. We have not received an UPDATE request from you which you should send when you are at the clinic. It is very important that you go to a clinic for tests and treatment. If you have not been, please go and when you are there text UPDATE to 0748 133 7179. You can ring 020 3315 6961 if you think you have been sent this message in error.

Option 2 – Using ePN remotely

As you chose the remote option, once you send your partner(s)' number(s) to the number shown on the ePN patient information leaflet, you will receive this message

Text message 4:

We have received your partner(s)' mobile number(s) and will text them the message. Thank you.

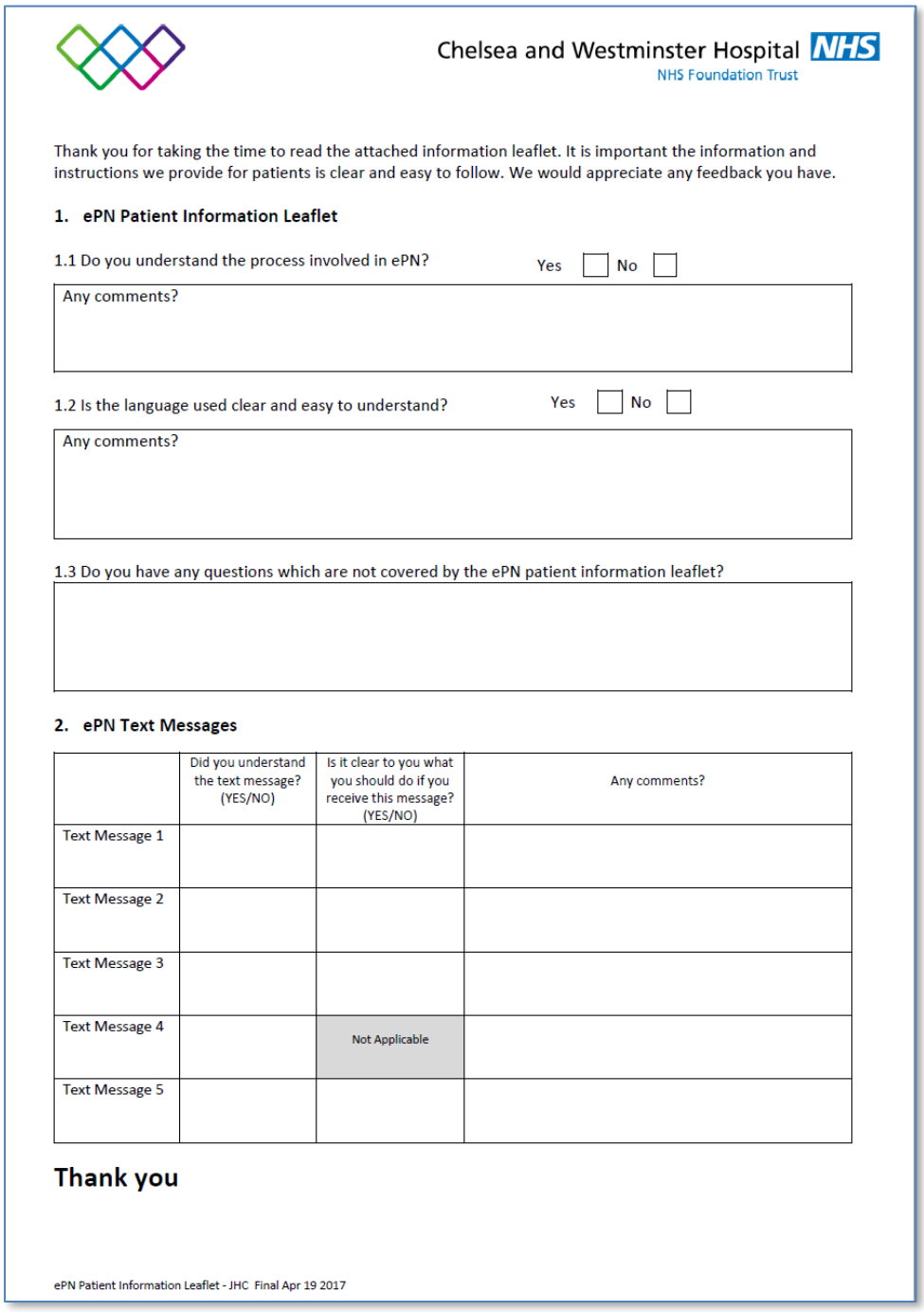
If you forget we will send you a reminder

Text message 5:

You were going to send us the mobile number(s) of your partner(s). We have not received them. Please send them to us by texting ADD followed by the mobile phone number(s) to 0748 133 7179. Multiple numbers should be separated by a comma and no space – e.g. ADD 07123412222,07777111222. Or if you prefer you can call the health adviser team on 020 3315 6961.

ePN Patient Information Leaflet - JHC Final Apr 19 2017

Patient questionnaires



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Thank you for taking the time to read the attached information leaflet. It is important the information and instructions we provide for patients is clear and easy to follow. We would appreciate any feedback you have.

1. ePN Patient Information Leaflet

1.1 Do you understand the process involved in ePN? Yes ☐ No ☐

Any comments?

1.2 Is the language used clear and easy to understand? Yes ☐ No ☐

Any comments?

1.3 Do you have any questions which are not covered by the ePN patient information leaflet?

2. ePN Text Messages

	Did you understand the text message? (YES/NO)	Is it clear to you what you should do if you receive this message? (YES/NO)	Any comments?
Text Message 1			
Text Message 2			
Text Message 3			
Text Message 4		Not Applicable	
Text Message 5			

Thank you

ePN Patient Information Leaflet - JHC Final Apr 19 2017

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Questionnaire for partners attending following conventional Partner Notification

We are going to offer text messages as an option when notifying partner(s) who have been in contact with a sexually transmitted infection. It is important the information and instructions we provide for patients is clear and easy to follow. We would appreciate any feedback you have. Thank you for taking the time to respond to the following questions.

The initial text would advise people of the need to test. If someone's mobile number is given to the clinic team, he/she would receive the following text message:

Text message 1:

> We are an NHS sexual health clinic. You may have been in contact with a sexually transmitted infection; chlamydia. It is important that you go to a clinic for tests and treatment. To ensure that you have all the up-to-date information, when at the clinic, NOT before, text UPDATE to 0748 133 7179. Show the clinic both messages. You can ring 020 3315 6961 if you think you have been sent this message in error.

If you received this text message, would you do as instructed? If not, why?

With reference to the specific sentence in this message:
"To ensure that you have all the up-to-date information, when at the clinic, NOT before, text UPDATE to 0748 133 7179." Do you understand why it is important that you wait until you attend a sexual health clinic before texting UPDATE?

Thank you

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