



An Evaluation of Pharmacy First UTI Pilot Service

**Pharmacy First for Uncomplicated Lower
Urinary Tract Infections (LUTIs) in women aged
16 to 64 years**

September 2022

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Overview of Pharmacy First UTI Pilot

Introduction

Urinary tract infections (UTIs) are caused by the presence and multiplication of microorganisms in the urinary tract. A UTI can be either symptomatic, with symptoms such as dysuria, increased frequency of urination, suprapubic tenderness, urgency and polyuria, or asymptomatic. An asymptomatic UTI is defined as the presence of bacteria in the urine (bacteriuria) without causing symptoms. Around 10 to 20% of women will experience a symptomatic UTI at some point and UTI incidence increases with age.

UTI is the second most common clinical indication for empirical antimicrobial treatment in primary and secondary care. Unnecessary antibiotic treatment of asymptomatic bacteriuria is associated with significantly increased risk of clinical adverse events and the development of antibiotic-resistant UTIs.

Rationalising and limiting unnecessary antibiotic use in patients with suspected (usually self-limiting) Lower UTI (LUTI) is a crucial step in controlling antimicrobial resistance (AMR). Understanding the evidence supporting LUTI diagnosis and the subsequent appropriate use of alternative (non-antibiotic) strategies which do not compromise clinical outcome and patient well-being is important.

Context

A Pharmacy First Service is a service whereby patients are encouraged to consult with a participating community pharmacy rather than their GP for a defined list of common conditions. The pharmacist will give advice and if appropriate, supply medication from an agreed formulary or refer the patient to the GP if necessary. Medicines, when deemed necessary, are supplied free of charge.

This Pharmacy First Pilot Service for uncomplicated LUTIs will facilitate the assessment and treatment of women aged 16-64 years presenting with symptoms of LUTI in the community pharmacy in line the NI Management of Infection Guidelines¹ and with the Public Health England Pathway².

An uncomplicated LUTI is a LUTI caused by typical pathogens in people with a normal urinary tract and kidney function, and no predisposing co-morbidities. Care provided through the service includes the presentation, assessment, advice and treatment of symptoms typical of uncomplicated LUTI.

The Strategic Planning and Performance Group (SPPG)³ plans and oversees the delivery of health and social care services for the population of Northern Ireland. SPPG established a Sub Group to oversee the pilot of the Pharmacy First Service for Uncomplicated Lower Urinary Tract Infections (LUTIs) in women aged 16 to 64 years.

The Medicines Optimisation Innovation Centre (MOIC) is a regional centre in Northern Ireland dedicated to delivering medicines optimisation to the population. MOIC were tasked with completing an evaluation of the pilot service.

¹Northern Ireland Primary Care (2022) 'Uncomplicated Lower UTI Non-pregnant women aged 16 years and over'. *Induction Healthcare Group 2022*, 3.0.01 Available from: <https://viewer.microguide.global/guide/1000000198#content,0b714967-885a-4306-bb80-8dbdfaf79550> [Accessed 29.06.2022]

²Public Health England (2007) 'Urinary tract infection: diagnostic tools for primary care'. Available from: <https://www.gov.uk/government/publications/urinary-tract-infection-diagnosis> [Accessed 29.06.2022]

³On 31 March 2022 the HSCB was closed and its staff and functions migrated to the Strategic Planning and Performance Group (SPPG) of the Department of Health on the 1st April 2022

Aims and objectives

The aim of the Pharmacy First Service is to displace activity, including consultations, advice and generating prescriptions, from general practice to a community pharmacy based service.

The objectives of the service are to:

- Objective 1** Provide a timely and appropriate service for women in the treatment of their condition and to identify patients who need onward referral to another healthcare professional

- Objective 2** Provide a service which is acceptable to service users and community pharmacists and which is supported by GP practices.

- Objective 3** Reduce inappropriate prescribing of antibiotics for uncomplicated LUTIs and reduce the number of general practice consultations for this condition.

- Objective 4** Support the cost-effective use of medicines and health service resources in primary care in line with the NI formulary

- Objective 5** Promote the role of the community pharmacist as the first port of call for the management uncomplicated LUTIs* for women aged between 16 – 64 years.

**In the following sections it is assumed that all patients who utilised the service are experiencing uncomplicated LUTI's and therefore the terminology has been simplified to UTI for the purposes of this report*

SPPG provided training materials for use with the Northern Ireland Electronic Care Record (NIECR) access, facilitated by the NIECR support team. The pilot service also explored the use of increased access to medical information such as NIECR to assist in the clinical management of patients by community pharmacists.

Evaluation methodology

The following outcome measurement and analysis was undertaken:

- **Pharmacy First Consultation Form**

Data for each consultation was collected on a Pharmacy First consultation form by the relevant Pharmacist.

All analysis was undertaken using Microsoft Excel. Frequencies, percentages, graphs, charts and tables have been used to summarise and present the information.

- **Stakeholder feedback**

Three surveys co-designed by the SPPG, Pharmacy First Task and Finish Group and MOIC were launched as online surveys via Citizen Space

- 1. Service User Evaluation**

Service Users were asked to complete the survey approximately 72 hours after their initial consultation. Completion of the survey was prompted by a follow up phone call from the pharmacists who then sent a link to the service users email address.

- 2. Pharmacist Evaluation**

Pharmacists participating in the service were asked to complete an online service evaluation when the pilot data collection period closed.

- 3. GP Evaluation**

GP practices were invited to complete an online service evaluation when the pilot data collection period closed.

Descriptive statistics were used to summarise responses. Qualitative feedback from participants has been themed and summarised in this report.

Results

Pharmacy First Consultation Form

Between July and December 2021, 62 community pharmacies in Northern Ireland participated in a pilot service of Pharmacy First for Uncomplicated LUTIs in women aged 16 to 64 years. Data for each consultation was collected on a Pharmacy First Consultation form by the pharmacist.

A total of 1065 Consultation form records were completed from months July to November 2021 (inclusive). Some of the consultation forms were from patients who did not meet the project age criteria. After consultation with the Project Leads a decision was made to exclude this data therefore 33 records were excluded from the database and do not feature in the analysis presented in this report.

The final total included in this report is 1032 with an age range of 16 to 64 years (average age 40 years). Patients who availed of the service were from across NI. The distribution per Local Commissioning Group (LCG) area can be found in Table 1 along with the age ranges. Age data was unavailable for 15 patients. After consultation with the Project Leads a decision was made to include this data in the analysis with the assumption that these candidates did meet the inclusion criteria.

Table 1: A breakdown of the number of service users per LCG area including age ranges who participated in the Pharmacy First UTI pilot

Local Commissioning Group (LCG) Area	No. of pharmacies per LCG area	No. of Patients	Av. age	Age range	No. of unknown age
Belfast	5	75	32	19 - 64	3
North	4	40	43	23 - 61	1
South	24	408	41	16 - 64	2
SE	5	88	40	17 - 64	5
West	8	421	41	16 - 62	4
Total	46	1032			

Type of Consultation

Consultations were undertaken in one of three ways, in person in the pharmacy, by video link or by phone. This data is presented Table 2, demonstrating that

consultations in person were the most common method of interaction between the Pharmacist First UTI service and service user. There were 47 occasions where the information was not recorded on the consultation form.

Table 2: Method of Pharmacy First UTI consultation broken down by LCG area

LCG Area	In person	Telephone	Video	Unknown
	(N = 1032)			
Belfast	58	1	0	16
North	34	3	1	2
South	331	66	1	10
South East	73	11	0	4
West	333	72	1	15
Totals	829	153	3	47

Referral Method

Figure 1 presents the referral methods to the service. Overall the most common referral method was via the GP Practice (52%) followed by Self-referral (29%). Referral by the Community Pharmacist accounted for 13% of the referrals. Referral by Out of Hours accounts for only 1% of the data, however, it should be noted that the Out of House service were not informed of the pilot or asked to refer patients to the service.

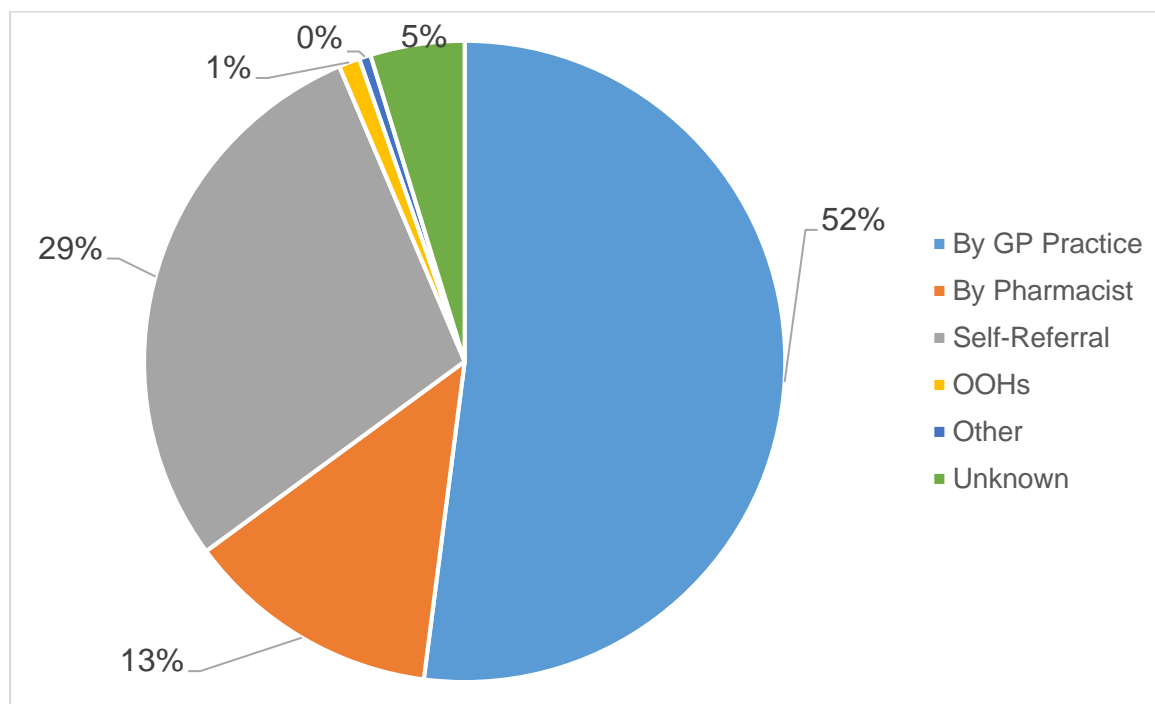


Figure 1: A chart displaying the variety of referral methods to the Pharmacy First UTI service

Duration of Consultation

Pharmacists were asked to document the time taken for the consultation. As indicated in Figure 2 just over half of the consultations (51%) took less than 10 minutes and approximately one third (34%) of the consultations took between 10 – 20 minutes. Only 6% of the consultations were reported to last more than 20 minutes. Additional information was provided to explain one of these consultations taking longer due to “waiting on surgery to answer phone regarding GFR”. Data was not recorded on 9% of consultation forms.

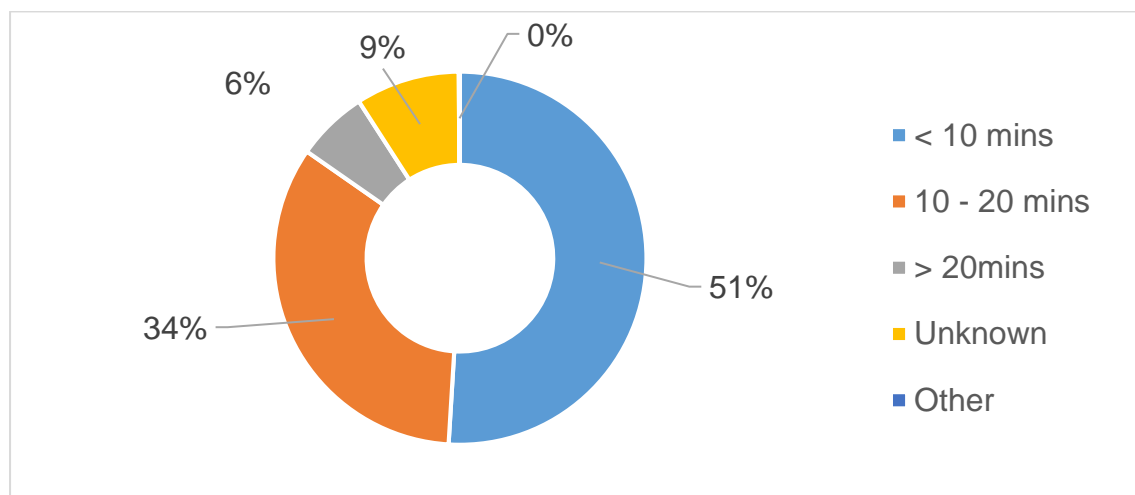


Figure 2: A chart presenting the time taken for Pharmacy First UTI consultations

Who facilitated the consultation?

The Northern Ireland Medicines Optimisation Quality Framework¹ recommends an increased utilisation of pharmacists' clinical skills. An Independent Prescribing Pharmacist (IP) is a pharmacist who has undertaken additional training to obtain a qualification enabling them to prescribe autonomously. Thirty-eight IP's were selected to provide the service in community pharmacies across NI as part of this pilot. A Non-Independent Prescribing Pharmacist does not have this qualification however, Non-IP pharmacists can provide the service via Patient Group Directions (PGDs). A PGD enables non-IP pharmacists to supply specified medicines to pre-defined groups of patients without a prescription. In 38 of the pharmacies there were both IP and non-IP pharmacists providing the service and in the remaining 24 pharmacies the service was provided only by non-IP pharmacists using the service PGDs.

¹Department of Health and Social Services and Public Safety Northern Ireland (2016) 'Northern Ireland Medicines Optimisation Quality Framework' Available from: [Northern Ireland Medicines Optimisation Quality Framework - March 2016 \(health-ni.gov.uk\)](https://www.health-ni.gov.uk/publications/northern-ireland-medicines-optimisation-quality-framework-march-2016) [Accessed 15.09.2022]

Pharmacists were asked to document on the consultation form if the consultation was facilitated by an Independent Prescribing Pharmacist or Non Independent Prescribing Pharmacist. A summary of this data is presented below in Table 3.

Table 3: The number of consultations facilitated by an Independent Prescribing and Non Independent Prescribing Pharmacist in the Pharmacy First UTI Pilot

<i>LG Area</i>	<i>IP pharmacist</i>	<i>Non IP pharmacist</i>	<i>Unknown</i>
<i>Belfast</i>	29	19	27
<i>North</i>	25	15	
<i>South</i>	94	291	23
<i>South East</i>	27	48	13
<i>West</i>	137	240	44
<i>Totals</i>	312	613	107

Diagnostic Symptoms

Data was captured on the consultation form of the symptoms a patient was experiencing.

The 3 key diagnostic symptoms of a UTI are:

- Dysuria (burning pain when passing urine)
- New nocturia (passing urine more often than usual at night)
- Urine cloudy to the naked eye

Other common symptoms include urgency and frequency and less commonly visible haematuria and suprapubic tenderness.

Table 4 presents the number of service users that experienced key signs and symptoms indicative of a UTI. As expected dysuria (85%), nocturia (68%) and urine cloudy (58%) were reported by a high number of service users. . In addition increased frequency of urination and urgency to urinate were also experienced by over 50% of patients. A high proportion of service users reported their symptoms were severe

(70%). Suprapubic tenderness (32%) and visible haematuria (13%) were less common symptoms.

Table 4: Symptoms service users were experiencing documented on the consultation form

Symptoms	No. of Service Users	% of Service Users
<i>*Key symptom</i>	(N= 1032)	
Dysuria*	875	85%
New nocturia*	700	68%
Urine Cloudy*	539	52%
Urgency to Urinate	554	54%
Frequency of Urination	584	57%
Visible haematuria	134	13%
Suprapubic tenderness	329	32%

Urine Dipstick testing

Following initial assessment some service users were asked to perform a urinary dipstick test.

There were two different recommendations for pharmacists to consider depending on the patients symptoms:

- 1) If the service user had only 1 key diagnostic symptom then a urine dipstick test was required.
- 2) If the patient had 2 or 3 of the key diagnostic symptoms then pharmacists were advised that a urine dipstick test was not required to confirm diagnosis.

The urine dipstick test tested for three things:

- Nitrites
- Leukocytes
- Red blood cells

For the purposes of this report, the Project Leads at SPPG advised that a urine dipstick test that is positive for any or all of the above (Nitrites, Leukocytes or Red blood cells) should be considered a positive dipstick test. .

After the initial assessment of patient, pharmacists were asked to determine if a UTI was likely, unlikely or likely to other diagnosis.

Action taken following initial consultation

Following diagnosis pharmacists had to decide on a course of action. The guidance notes for the pharmacists specified that advice (verbal and/or written) should be given to all patients during the course of their consultation. This advice should include symptom duration and management, self-care, treatment and potential adverse effects.

Treatments available within this service includes analgesics and antibiotics where appropriate. The formulary options for the pilot service were paracetamol, ibuprofen, nitrofurantoin and trimethoprim. In line with NI formulary antimicrobial guidelines nitrofurantoin is the first line antibiotic in this group of patients. Trimethoprim may be used where there is a lower risk of resistance or allergy to nitrofurantoin.

Figure 3 presents the action taken during the pilot. The provision of verbal advice (41%) was the most popular action taken with medicines supplied being the next most common intervention (34%). Written advice was given to 23% of participants. Minimal numbers of service users purchasing over the counter (OTC) medication were reported on the consultation forms.

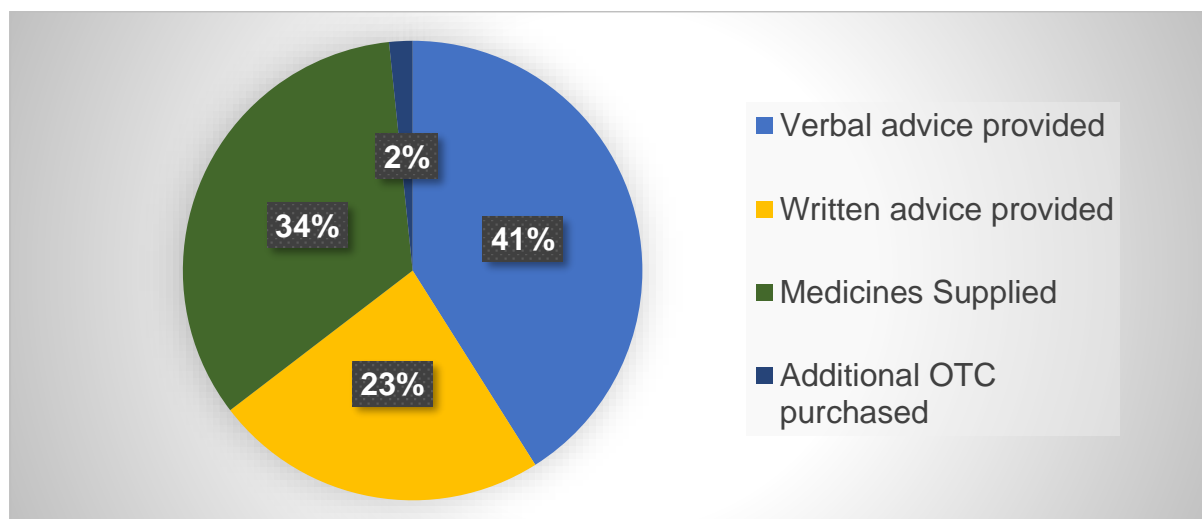


Figure 3: A chart presenting actions taken following the Pharmacy First UTI consultations in each LCG area

A summary of the key symptoms and antibiotic prescription

Focussing in on antibiotic prescription, the following three flowcharts (Figure 4 to Figure 6) present a summary of the numbers of patients who presented with 2- 3 of the key diagnostic symptoms (798), one of the key diagnostic symptoms (183), or none of the key diagnostic symptoms (51). The flowcharts show how many patients had a dipstick test and the consultation findings as to whether the pharmacist categorised the patients into UTI Likely, UTI likely to other diagnosis or UTI unlikely. The flow charts also breakdown how many patients within each category were or were not prescribed an antibiotic. There were in all categories a number of patients that could not be categorised and have therefore been excluded from the flowchart.

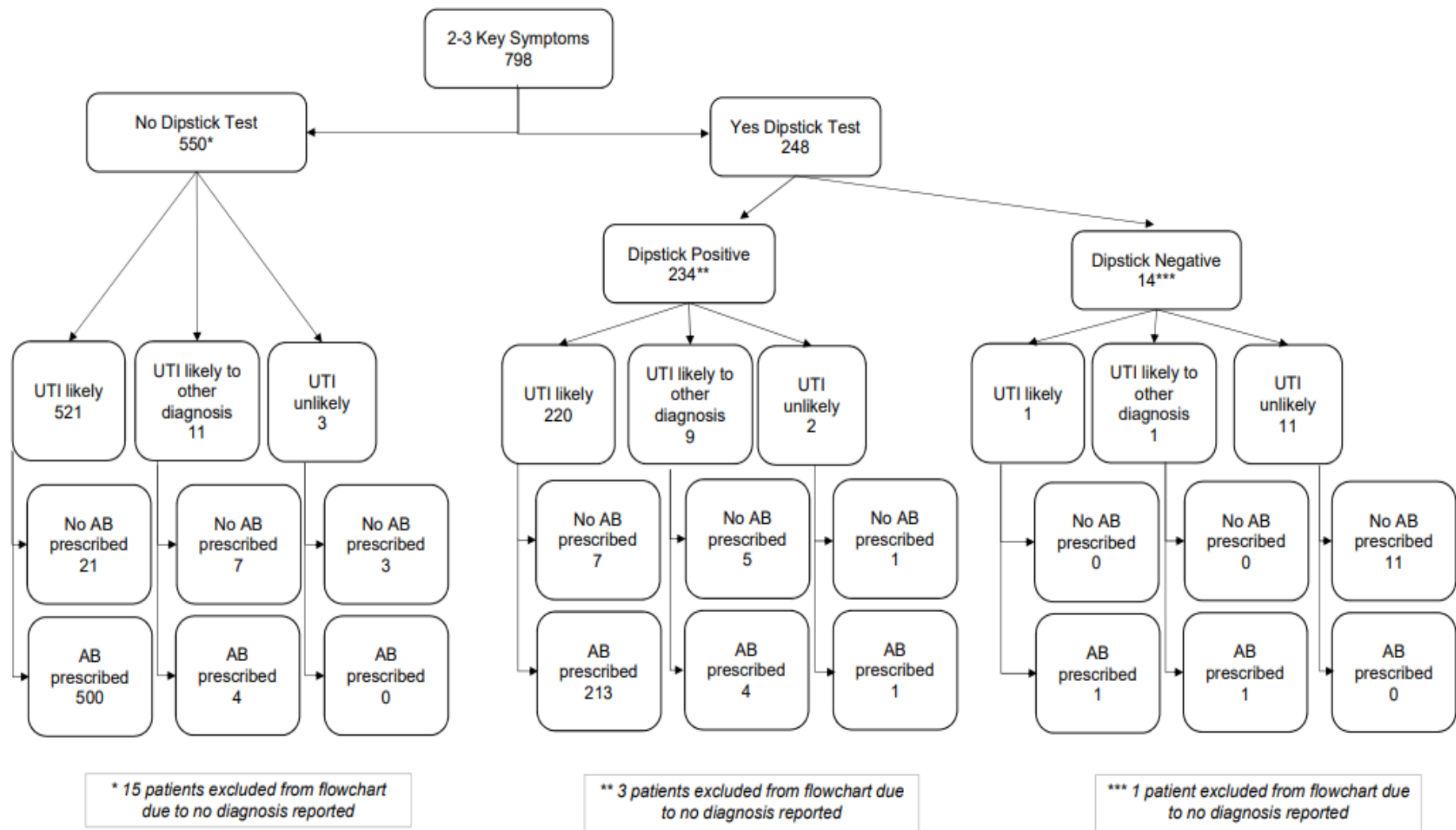


Figure 4: A flowchart summarising the patients with 2 -3 symptoms who utilised the Pharmacy First UTI service

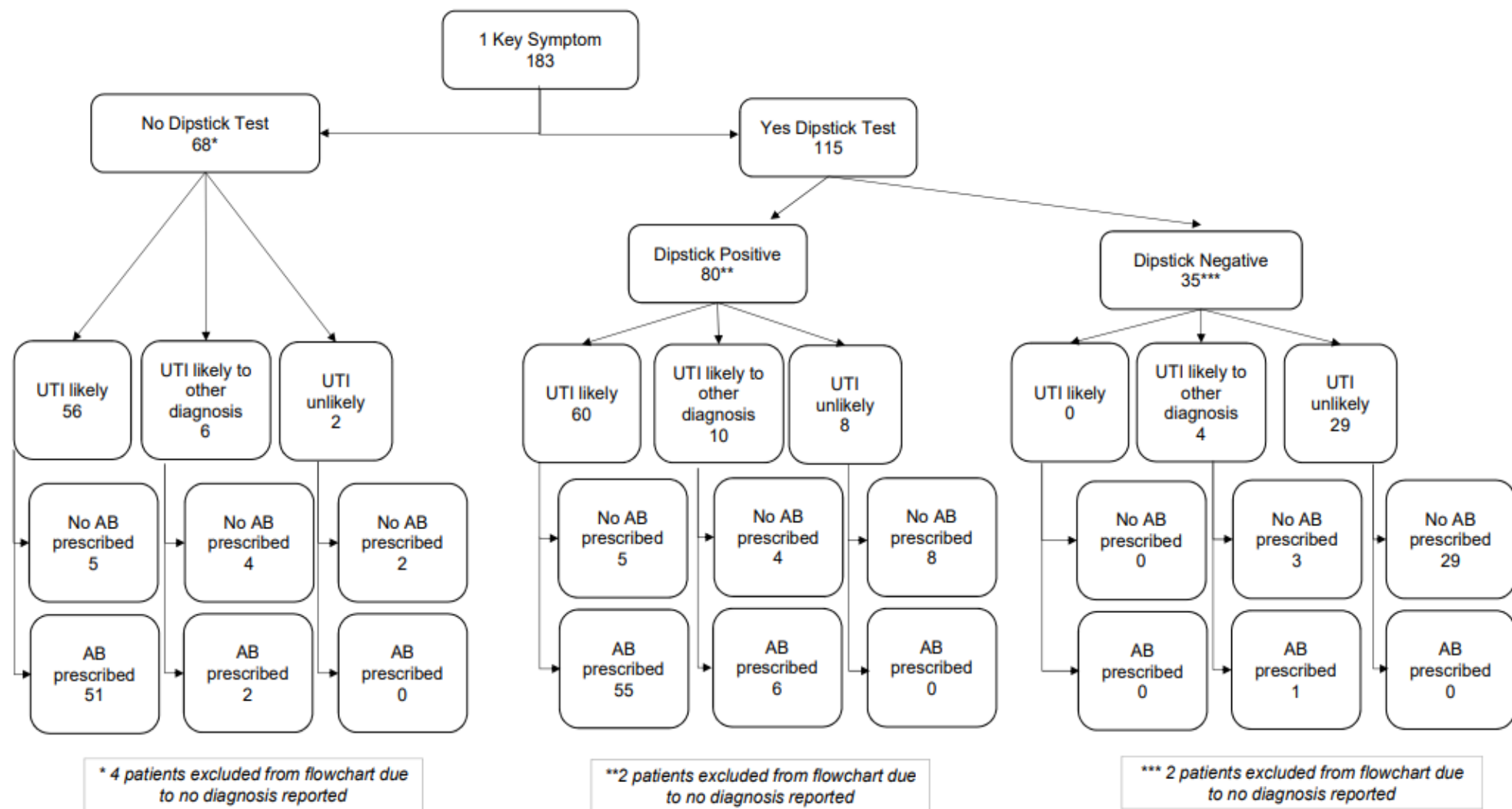


Figure 5: A flowchart summarising the patients with 1 symptom who utilised the Pharmacy First UTI service

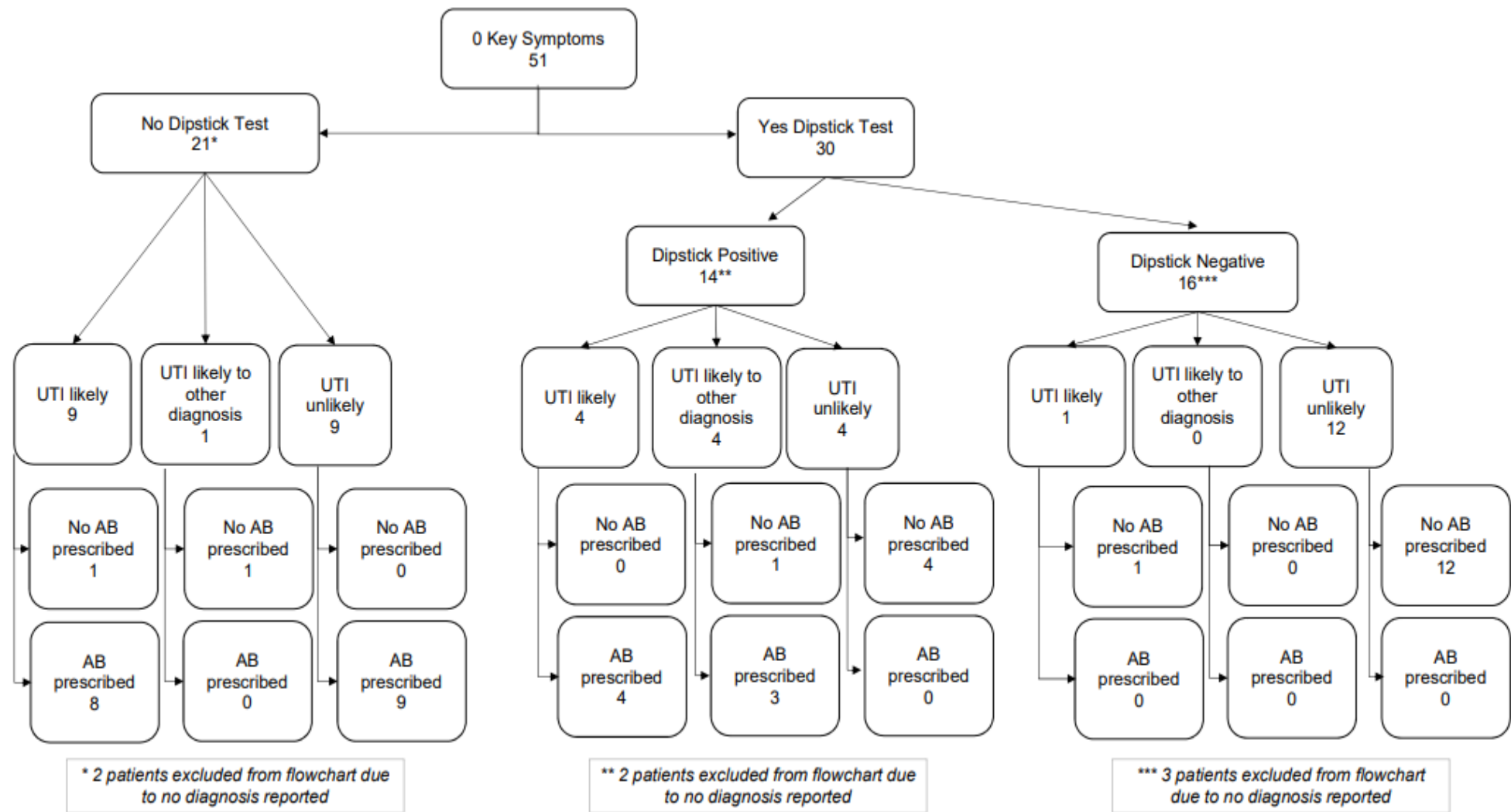


Figure 6: A flowchart summarising the patients with 0 symptom who utilised the Pharmacy First UTI service

A summary of all medicines supplied

Figure 7 presents the breakdown of medicines supplied. Nitrofurantoin was the most common medicine supplied to 442 service users. Trimethoprim was supplied to 22 service users. Pain relief was also supplied to service users where appropriate, 55 service users received paracetamol and 26 received Ibuprofen. Some service users were supplied with a combination of the medicines. Over the counter medications were purchased by 39 service users.

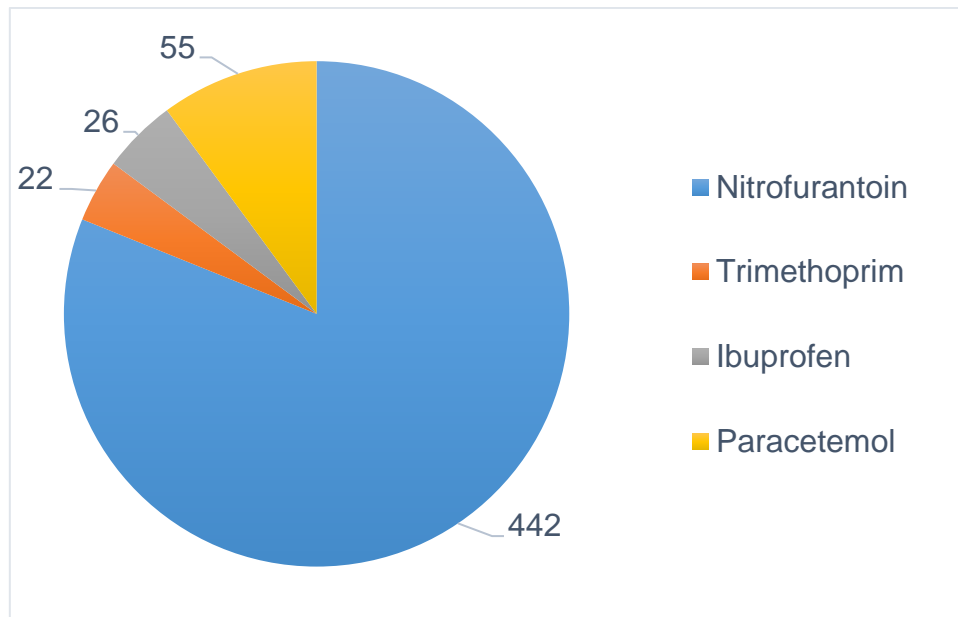


Figure 7: A chart presenting a breakdown of the medicines prescribed as part of the Pharmacy First UTI service

There were 83 patients who participated in the pilot who were not prescribed an antibiotic despite meeting the criteria to warrant a prescription of an antibiotic. However, closer analysis of additional data submitted a total of 37 patients had complications indicating that their condition could not be classed as an uncomplicated UTI, 11 patients were referred to their GP, 2 referred to the Out of Hours service and 1 person was excluded due to breastfeeding. It is possible that these patients initially presented as suitable for the service but during the consultation as more information was gathered it was felt that a different course of action was required and following the guidelines for the pilot was no longer appropriate. There are 32 patients who

remain unaccounted for in terms of an explanation as to why they were not prescribed an antibiotic.

Northern Pharmacies Ltd

A subset of pharmacy contractors who fall under Northern Pharmacies Ltd. aimed to perform a urine dip stick test on all patients presenting with an uncomplicated UTI regardless of the number of presenting key symptoms. Of the 144 consultations carried out by Northern pharmacies 139 recorded performing a urine dipstick test. An antibiotic was received by 91 out of 144 (63%) patients who utilised the Northern Pharmacies UTI service. A summary of the data analysed specific to Northern Pharmacies Ltd. can be found in Appendix 2.

Referral to another health professional

Of the 1032 consultation forms reviewed for this evaluation 85 indicated referral to another healthcare professional. There were a range of reasons noted for this for example differential diagnosis, potentially more serious illness or symptoms indicative of a more complex UTI which is outside the remit of this service.

Follow up (72 hrs later)

Approximately 72 hours after the consultation a follow up phone call was made to patients. The outcomes of this follow up phone call were recorded on the consultation form. Options for outcomes were; symptoms cleared with self-care only, symptoms cleared with antibiotic from pharmacy, condition deteriorated, patient contacted GP or OOHs. Recorded outcomes are presented in Figure 8.

Of the 1032 patients 54% reported their signs and symptoms had improved with antibiotic treatment and 4% with self-care. Some patients (8%) contacted another health professional during the 72 hour period and a small proportion (4%) felt their condition had deteriorated. Outcomes are not recorded for the remaining service users as they could not be reached by telephone or no follow up data was recorded.

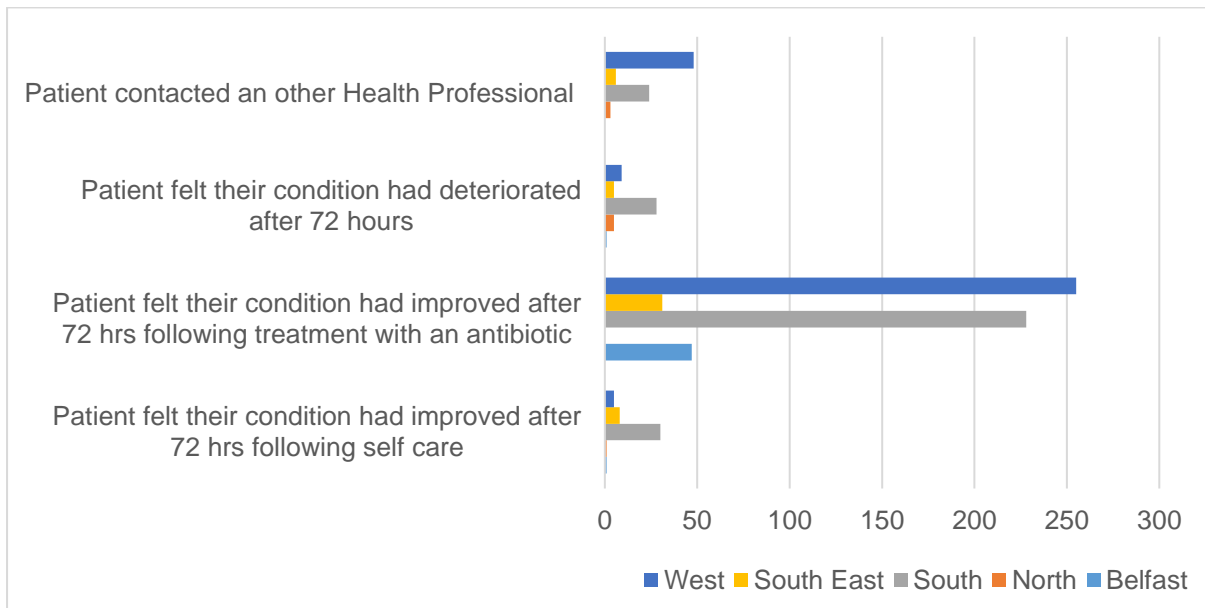


Figure 8: A chart presenting a summary of outcomes approximately 72 hours after the initial consultation with the Pharmacy First UTI service

Evaluation Surveys

Three online surveys were developed to obtain the views and experiences of a range of key stakeholders. The surveys were developed by the Pharmacy First Task and Finish group in conjunction with MOIC.

Service User Evaluation Survey

An online survey was developed to obtain the views and experiences of patients. During the 72 hour follow up phone call the pharmacist shared a link to the survey using an email address provided by the patient. On the consultation forms 4 patients are noted to have not provided an email address and therefore were unable to participate. The survey was open 21/05/2021 to 14/12/2021. There were 233 responses in total. The survey closed 3 weeks earlier than expected due to a technical issue with the survey provider that was outside of the control of the SPPG Sub Group or MOIC. Respondents were asked to respond to a number of questions. An outline of the questions can be found in Appendix 3. Responses to the questions have been collated, analysed and are summarised below:

How did you find out about this service?

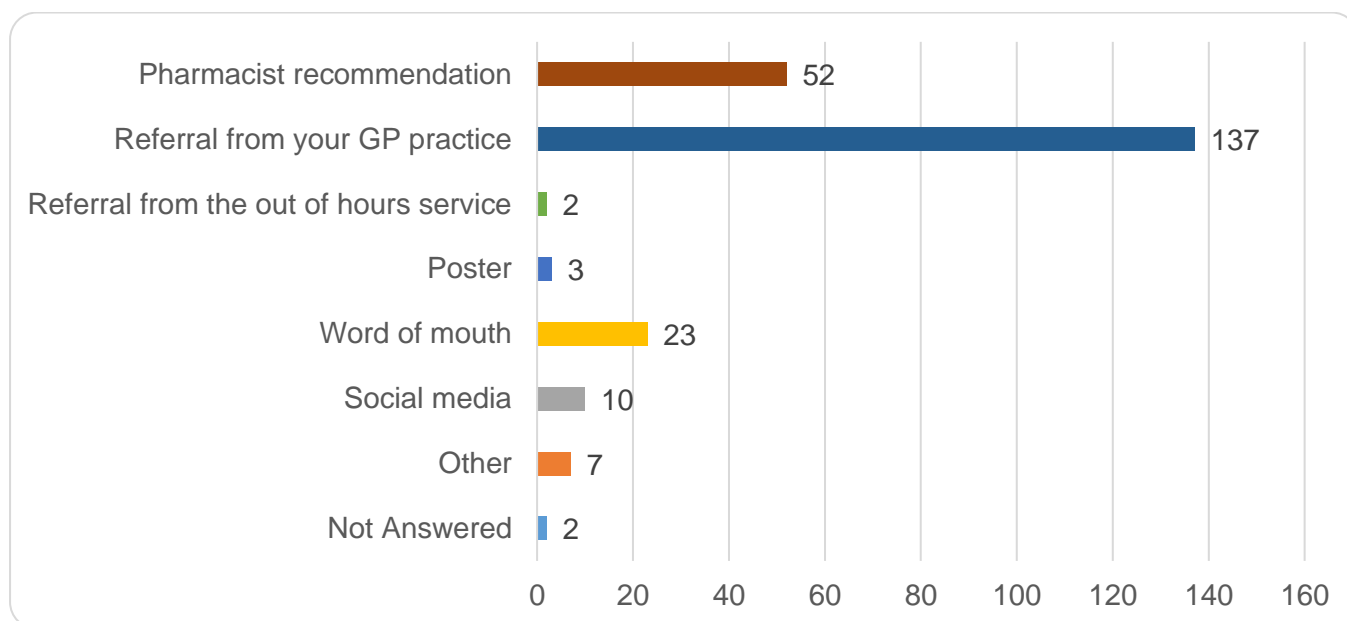


Figure 9: A chart summarising how service users found out about the Pharmacy First UTI service.

A small number of respondents (n=11) provided further detail regarding how they came to learn about the service, some examples are provided below.

Pharmacist recommendation - *"I had symptoms of a UTI and thinking I would never get a GP appointment at short notice, I went to my local pharmacy in the hope they may be able to help."*

Referral from GP practice - [I was] *"on holiday and rang nearest GP practice to see if I could speak to a doctor and was advised that I had to contact the local pharmacy instead."*

Word of mouth – [Family member who works in primary care] *"... made me aware of the service as she didn't want me being sick over a weekend and not being able to get a urine sample tested and an antibiotic if needed."*

Did the pharmacist provide advice on the management of your symptoms?

The majority of respondents (97%) confirmed that the pharmacist provided advice on how to manage symptoms. Less than 2% advised that they did not receive advice, one person responded "not sure" and one person did not provide a response.

Was this advice helpful?

Most of the service users (98%) advised that the advice they received was helpful.

If you had similar symptoms in the future how likely would you be to use the service again?

The majority of participants (98%) confirmed that they were 'Likely' or 'Very Likely' to use the service again.

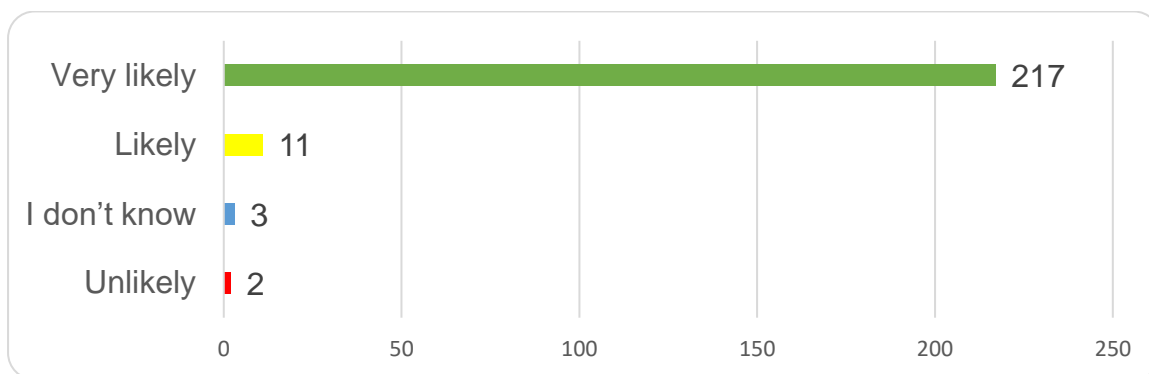


Figure 10: A chart demonstrating how likely a service user is to use the Pharmacy First UTI service again.

How likely would you be to recommend the service to friends and family?

Most of the respondents (99%) confirmed that they were ‘Likely’ or ‘Very Likely’ to recommend this service to friends and family.

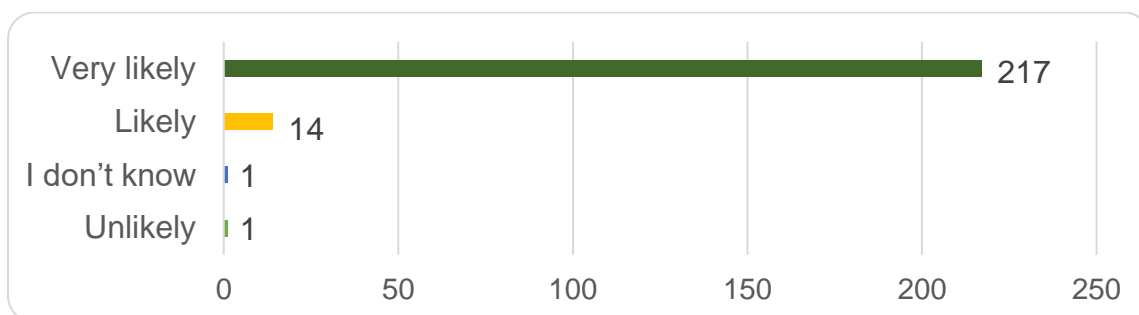


Figure 11: A chart demonstrating how likely a service user is to recommend the Pharmacy First UTI service.

How satisfied were you with the service overall?

There was a high level of satisfaction with the service with 99.6% of participants responding that they were either satisfied or very satisfied with the service. One participant responded advising that they “don’t know”.

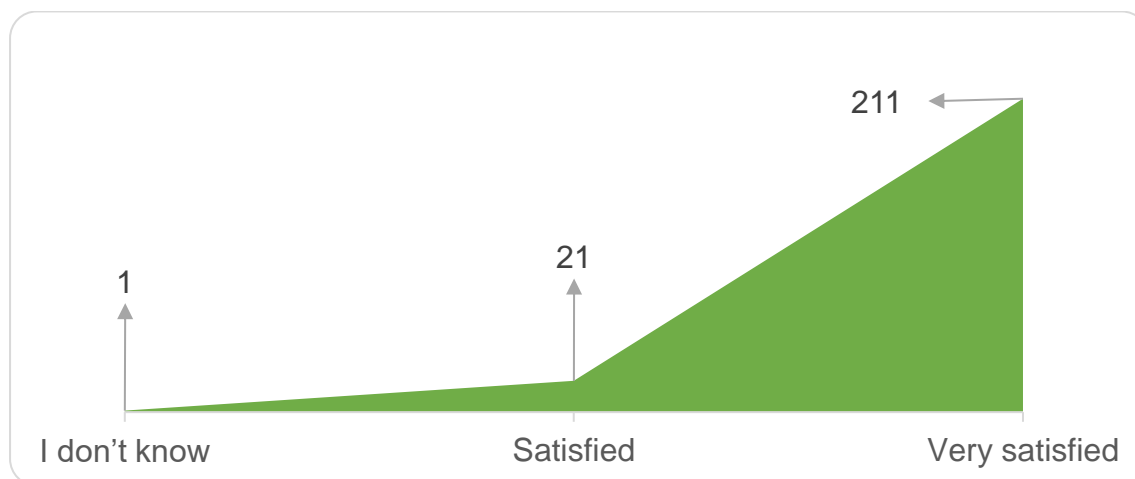


Figure 12: A chart demonstrating how satisfied service users were with the Pharmacy First UTI service.

Would you feel more confident to manage these symptoms yourself in the future?

Over half of the service users (65%) who responded to the survey advised they would feel confident to manage the symptoms themselves in the future. There was uncertainty among 18% of participants and 16% did not think they would feel confident to manage symptoms in the future.

Majority of service users (79%) advised that they would have contacted their GP had the Pharmacy First UTI service not been available. Just under a quarter of respondents (21%) would have contacted the out of hours service. Very few participants (2%) advised that they would have contacted their community pharmacist. A summary of responses can be found in Table 5. Some responders selected more than one option.

Table 5: Presents the possible options that service users would have chosen had the Pharmacy First UTI service not been available

Option	No. of Service users	% of Service users
Nothing	3	1%
Managed the symptoms yourself	15	6%
Contacted your community pharmacist	4	2%
Contacted your GP practice	183	79%
Contacted the out of hours service	48	21%
Attended the emergency department	16	7%
Other	4	2%

Further information was provided by 21 respondents detailing what they would have done in the event this service had not been available. The majority of these respondents (N=15/21) explained that they would have tried to contact their GP or Out of Hours service but added that they routinely had difficulties accessing these services.

"I had tried to contact my GP beforehand, but they were booked up, (as they had been the previous day), and couldn't even take a phone call. I would have been left with no option but to contact Out of Hours service."

"I had tried to contact my GP previously but got nowhere so I had been ignoring the symptoms until it got to the stage where I could barely pass any urine at all."

"I was in significant pain and needed relief as soon as I could get relief. This service provided by the pharmacy expedited care and was very efficient in providing immediate care."

"I would have contacted the GP but there would have been a delay in getting treatment. As I only felt I need an antibiotic on Friday evening. My GP closes at the weekend so it was great to access this facility at the weekend."

Do you have any other feedback or suggestions to improve the service?

Approximately half of the respondents (N=119/233) provided additional feedback or suggestions to improve the service. All survey participants detailed a positive experience with the service. In particular they valued the expedited nature of the service in comparison to attending the GP. Respondents felt the service offered improved access and convenience for patients and also freed up GP time to deal with more complex patients. Some respondents also highlighted how they believed the service would reduce attendances to Out of Hours and Emergency Departments.

“This was a fabulous service. I had tried to manage symptoms for five days prior but knew I required additional support. Seen the same day and treatment started that evening. Within 24 hrs my symptoms were resolving. Being a health care worker being at work was very important so having this service saved time and good use of resources. Thank you”

“[Pharmacist] was very helpful, and without this super-fast service I would have been in severe pain whilst waiting to get through to my doctors, then having to travel to leave in a sample, then wait for the sample to be tested, then wait for a prescription to be written and then wait for it to be sent to the chemist, then having to try and collect it before the chemist closes . . . the service provided at the [Pharmacy] cut out all this wasted time and pain. Brilliant service. I’m so glad I called in that day, and was sorted within a 30 minutes.”

“Excellent service. I put off contacting my GP, letting my symptoms persist for weeks, because of the hassle of a GP appointment when working full time. If I had known that this service existed earlier I would have gotten treatment sooner and not suffered for so long. It is so convenient to be able to call in without an appointment at a time that suits, and the pharmacist was so helpful and informative.”

Key findings regarding suggested improvements included:

- **Increased awareness of the service / improved signposting**

The need for increased awareness and improved signposting of the service was by far the most commonly suggested improvement proposed by respondents. A number of respondents highlighted the need to improve awareness of all similar services offered by Pharmacists across conditions given the demands on primary care due to Covid. However, it is acknowledged that this project was a small pilot so regional awareness, general press or social media publicity was not appropriate at this time.

“GP surgery didn't know which chemists were providing the service - sent me to different [Pharmacy] in completely different town! All chemists should provide it or better communication with GP surgeries.”

“It would be beneficial for patients to know what services, similar to this, are available through a Pharmacist, especially in the current Covid climate when it is becoming increasingly difficult to have a face to face appointment with a GP.”

- **Rollout of service, including more inclusive criteria**

Many participants in the survey highlighted how they hoped the service would continue and be rolled out across all pharmacies so others could avail and benefit from the service as they had. A small number of respondents queried whether the age range of people eligible to access the service could be expanded both at the upper and lower limits.

“... Why stop at 64 years old? Why not for older people as well?”

“... It would be helpful to have this available for younger people.”

- **Improved confidentiality in the pharmacy environment**

A few individuals noted how they would have benefited from improved confidentiality in the pharmacy environment and felt this could be improved upon.

“Room in pharmacy very small and door was not closed during consultation, for privacy.”

“Private consultation rooms instead of discussing symptoms on shop floor.”

“The only negative maybe a private room for the consultation for confidentiality but a great service and much needed.”

- **Greater scope for Pharmacist in prescribing antibiotics**

In a number of responses to the survey it was clear that the patients required further involvement from a GP in order to obtain the correct antibiotic prescription, in a small number of cases this was due to other ongoing health complaints. These respondents felt that Pharmacists should have access to patient information, e.g. lab results, to enable them to prescribe alternative antibiotics if required.

“The community pharmacist was excellent in her advice; however because of my existing medication she needed my kidney function results before authorising antibiotics. She tried to obtain with my permission, however she could not cross check, so advised to contact Out of hrs Dr for the info ... For the service to run smoothly, in my case my community pharmacist SHOULD BE ABLE to access basic patient blood test results so that they can offer a complete service to a patient like me, so that patients do not have to contact an overstretched Out of Hrs Dr Service.”

“The service I received was fantastic, the only downfall was I was prescribed an incorrect antibiotic for my type of UTI (through no fault of the pharmacist) I therefore ended up going back to my GP who has since prescribed a second course of antibiotics and sent the sample off for further testing. Perhaps this is something that could be considered by pharmacists (to send samples off for further testing) to ensure the correct treatment is given as soon as the infection has been identified by the lab.”

GP Practice Evaluation Survey

An online survey was developed to obtain the views and experiences of GPs. A full outline of questions can be found in Appendix 4. All GP practices received correspondence relating to the pilot service. Those who were aware of and involved in the pilot were asked to complete the survey. The survey was open from 04/01/2022 to 26/01/2022. There were 32 responses in total. Table 6 and Figure 13 summarises the responses by profession, the majority being GPs (56%) and also the distribution of respondents from each LCG area.

Table 6: Respondents to Pharmacy First GP evaluation survey

Stakeholder	No	%
GP	18	56
General Practice Pharmacist	6	19
Practice Manager	5	16
Receptionist	1	3
Unknown	2	6

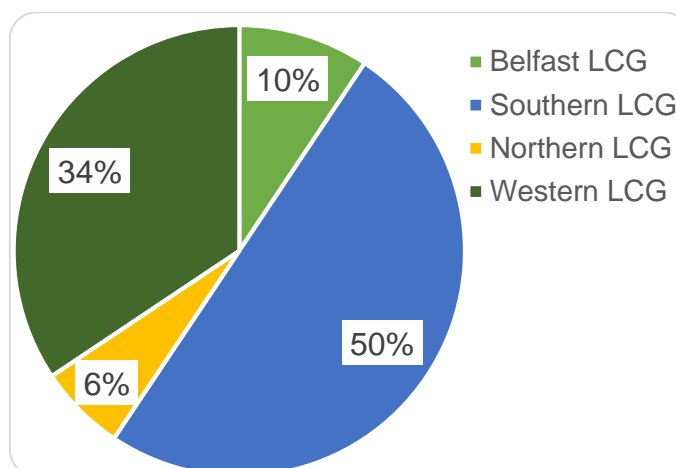


Figure 13: A chart presenting the distribution of respondents to the Pharmacy First UTI GP evaluation survey across NI

Awareness of the Pharmacy First UTI service:

The majority of respondents (84%) were aware of the pilot service and had found out about the service from a range of sources (Figure 14). Sources included HSC Board (67%) and being informed by a community pharmacy (28%) who are running the service.

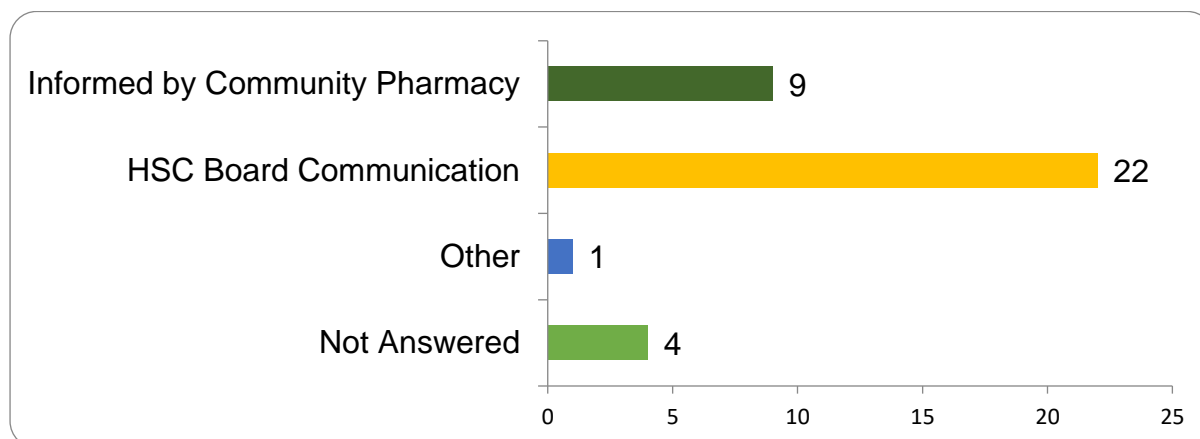


Figure 14: How GPs found out about the Pharmacy First UTI service

Over half of the respondents to the GP evaluation were aware of patients that had been referred from their practice to the Pharmacy First UTI Pilot service with 58% responding that they were aware, 28% were not aware and 13% did not respond.

The majority of participants (78%) felt that the service documentation on patient eligibility for referral to the service was clear. One person responded to advise they did not feel the service documentation was clear, and two advised they had not seen the documentation. Four people did not respond to this question.

Service Users who did not want to be referred to the UTI service by the GP

There were nine responses confirming that some service users did not want to be referred to the Pharmacy First UTI Pilot. Seven of the responses were because the patient prefers a consultation with the GP practice. For one respondent the reason was because the service users' usual pharmacy wasn't providing the service and one respondent did not know why.

Service Users referred from UTI Service to the GP

Fourteen of the respondents (44%) advised they were aware of service users who had been referred from the Pharmacy First UTI service to the GP for review. Twelve participants felt the referrals were appropriate whilst two respondents advised the referrals were not always appropriate.

Rating on how well referrals to the UTI service were received by patients

Survey Participants were asked:

“In your opinion, how well were referrals to the Pharmacy First UTI pilot service received by patients? (1 being- not well at all and 5 being- very well)”.

There were 27 responses to this question. Five participants did not respond. The chart in Figure 15 summarizes the rating responses and demonstrates that over half the respondents (56%) rated the responses with a rating of “4” or “5” with 22% selecting a rating of “3” and only 6% selecting a rating of “1” or “2”).

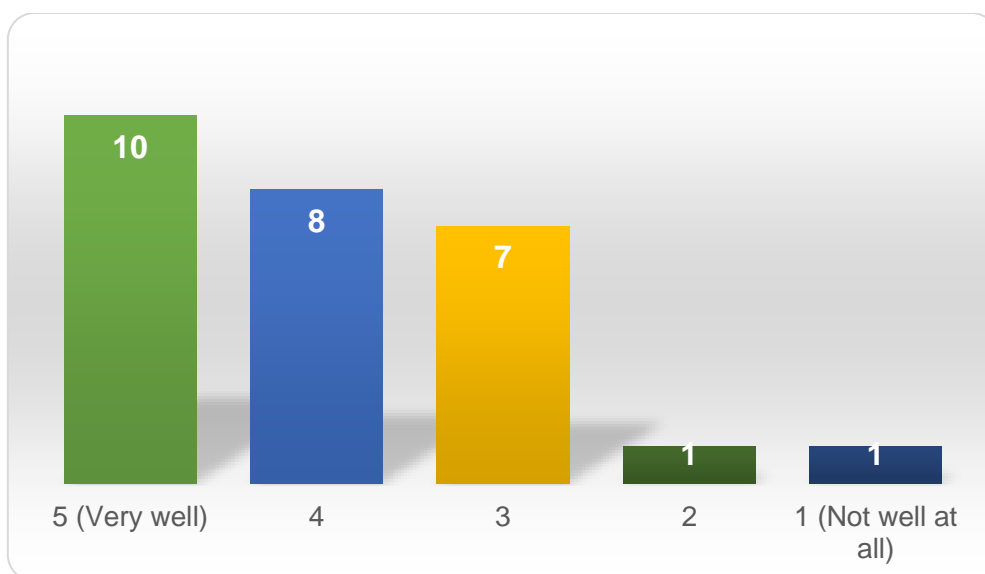


Figure 15: A chart presenting how well referrals to the Pharmacy First UTI service were received by patients

The majority of respondents (66%) felt the service was beneficial to patients. One person did not feel it was beneficial to patients, five were unsure and five participants did not provide a response. The reasons respondents felt the service was beneficial are presented in Table 7.

Table 7: A Table presenting why the GP practice felt the Pharmacy First UTI service was beneficial to service users

Why the UTI service is beneficial to Service Users	No. Of responses	% of responses
Patient had quicker access to advice and / or treatment	21	66%
There was an option to dip a urine sample (when necessary) to help confirm diagnosis and reduce inappropriate prescribing of antibiotics	14	44%
The service provided an opportunity for patient education about self-care and ways to help reduce the risk of recurrence	12	38%
Other	1	3%
Not Answered	11	34%

Impact on GP workload

GP practices were asked to respond to a scale on how strongly they agreed or disagreed that the introduction of the UTI service had a positive impact on GP workload. Most of the respondents (56%) were in agreement that the UTI service had a positive impact. Only 16% of respondents disagreed, 13% were in a neutral viewpoint and five of the participants did not respond to this question. See Figure 16 for a chart presenting the results.

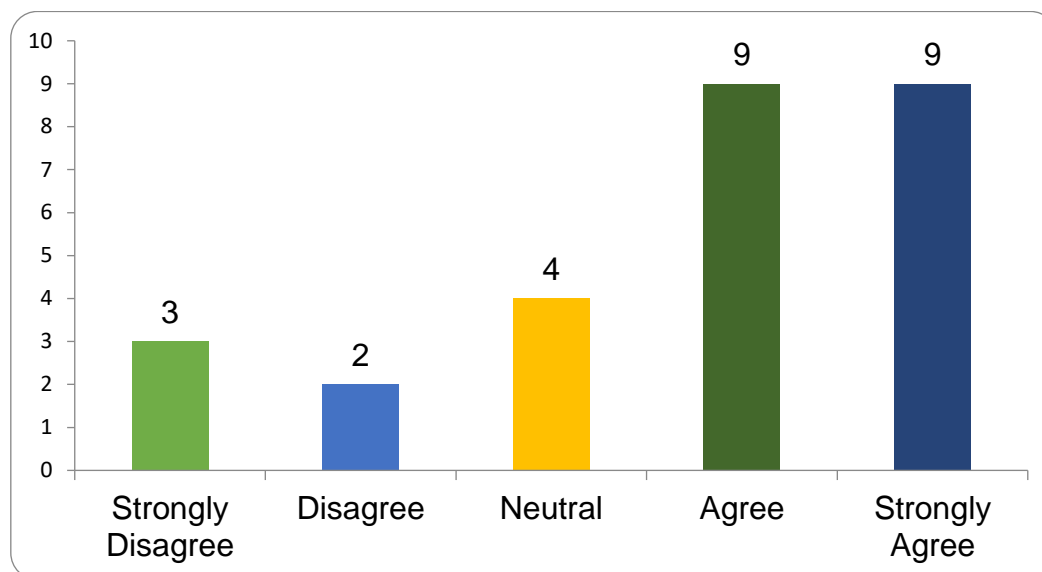


Figure 16: A chart presenting the opinion on whether the Pharmacy First UTI service had a positive impact on GP workload

The majority of respondents (41%) had an opinion that there were fewer patient requests for appointments with GPs. Some respondents 34% felt there was a decrease in the number of prescriptions issued for symptomatic relief of uncomplicated UTI's and a decrease in the number of prescriptions for an antibiotic for UTI's was expressed by 28% of responders.

The survey also asked for feedback on the adverse impacts the service may have had to GP Practices. One survey participant did feel the service had an adverse impact on GP practice. Majority of respondents (81%) did not feel there was an adverse effect on GP Practice. The rest of the respondents to the survey (n=5/32) did not respond to this question.

Challenges to service facilitation

Seven of the survey participants confirmed they felt there were challenges to service facilitation. Twenty did not feel there were challenges and five participants did not respond. Public awareness of the service was the main challenge presented. From those that responded the challenges highlighted in Table 8 are the main issues identified.

Table 8: The main challenges to facilitating the Pharmacy First UTI service

Challenges to service facilitation	No. of responses
Lack of information provided about the service	2
Lack of time to implement triage and referral of eligible patients	0
Service not adequately promoted to the public	5
Lack of patients to refer to the service	0
Other workload pressures	1
Other	5

Other challenges highlighted by GP staff (N=6) facilitating the service included:

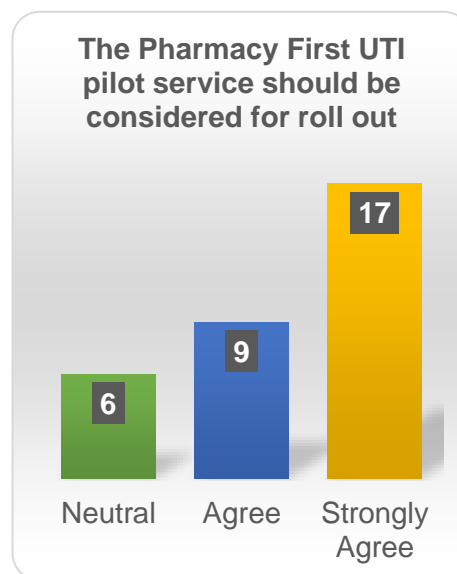
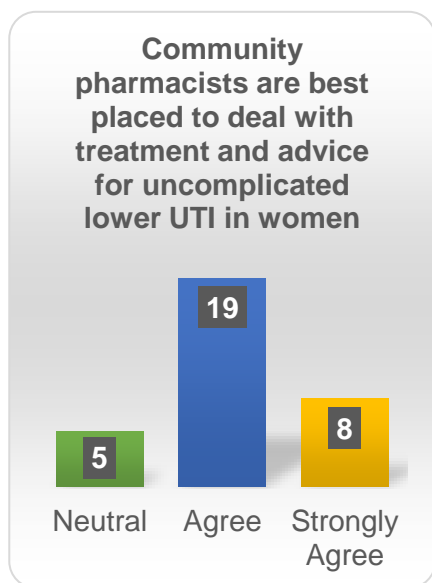
- Insufficient detail being provided from the Pharmacist to GP regarding referrals or treatment provided to patients (N=2).
- That many patients were ineligible to be signposted to the UTI pilot service as they did not meet the criteria (N=2).
- A lack of local pharmacies participating in the UTI pilot service (N=1).
- Incorrect information being provided about the service to patients i.e. that payment was required to access the service (N=1).

Roll out of Pharmacy First UTI service

There was agreement among participants (84%) that community pharmacists are best placed to deal with treatment and advice for uncomplicated lower UTI in women and 81% of survey participants were in agreement that the service should be considered for roll out to all community pharmacies. There were some participants who neither agreed nor disagreed with either statement. However there were no respondents who disagreed with either statement. The results are presented in Figure 17 and Figure 18.

Figure 17: A chart presenting response to the statement: "Community pharmacists are best placed to deal with treatment and advice for uncomplicated lower UTI in women"

Figure 18: A chart presenting response to the statement: "The Pharmacy First UTI pilot service should be considered for roll out to all community pharmacies."



Other feedback and suggestions

Further feedback on the UTI pilot service was provided by 21 respondents. The most common suggestion for improvement (N=7) was that there needed to be greater promotion of the service to the public if it was to be rolled out. Two individuals highlighted that they were unaware of the pilot service themselves.

... by time patient has rung GP practice to ask advice they DONT want to be then told to go away and ring pharmacy instead, so it needs to be that they don't even approach us!!!

I think this is a very reasonable service for pharmacies to provide, however unless it is widely available and the public are aware of the service it will have little or no impact on GP workload. At present the GP practice is still the 1st place a patient will contact with UTI symptoms, the practice will then deal with this, I can see no circumstance were the practice would then refer a patient to a pharmacy. If patient knows they can go directly to the pharmacy and essentially 'bypass' their practice then this would have small impact on workload.

A concern raised by a small number of respondents (N=3) was around antimicrobial stewardship and measures that could be put in place to ensure appropriate antibiotic prescribing.

[Community pharmacies] need to have lab ciphers to send MSU for C&S otherwise this flies in the face of antimicrobial stewardship.

I think it should be compulsory to dip urine to ensure antibiotic is essential, especially when trying to combat antibiotic resistance and unnecessary prescribing.

It would be beneficial to GP surgeries if Pharmacies could dipstick all urine samples for potential UTIs and refer them to GP if they have an infection, a lot of the patients we see do not actually have an infection especially post menopausal women.

While there was a sense that the UTI pilot service added value there was feedback to suggest the service needed to be expanded if the intention is to have a meaningful impact on reducing GP workload. However, one participant believed that expanding

the range of services offered by community Pharmacists had the potential to impact patient behaviour.

... expanding more services like this for common infections would help shift the public perceptions that every health problems requires input from GPs and gradually shift patients to self-manage common health problems, freeing up GP's to deal with more complex patients and problems.

Pharmacist Evaluation

An online survey was developed to obtain the views and experiences of Pharmacists who had been facilitating the Pharmacy First UTI service. A full outline of questions can be found in Appendix 5. It was circulated to the 68 pilot sites. The survey was open from 04/01/2022 to 26/01/2022. There were 48 responses in total. Figure 19 presents the distribution of participants from each LCG area and Figure 20 demonstrates the distribution of independent versus non independent prescribers.

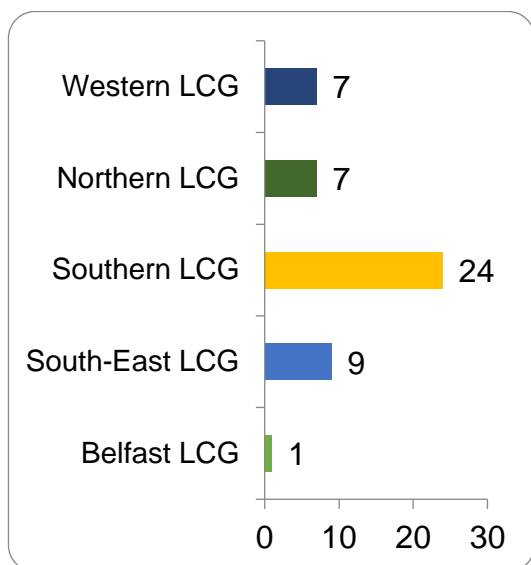


Figure 19: A chart presenting the distribution of respondents to the Pharmacy First UTI Pharmacist evaluation survey across NI

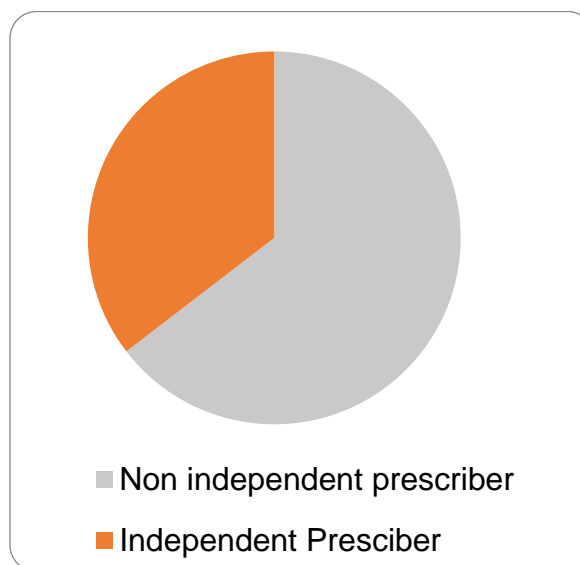


Figure 20: A chart presenting the distribution of Independent prescribers and non independent prescribers who responded to the Pharmacy First UTI Pharmacist evaluation survey across NI

Informing local GP practices of Pharmacy First UTI service

Nearly all of the pharmacists (98%) who participated in the evaluation questionnaire confirmed they informed local GP practices about the service. The methods used to inform GP practices are outlined in Figure 21 with 67% making a phone call, 42% sending a letter, 25% making a visit to the GP practice in person and only 13% opting to use email.

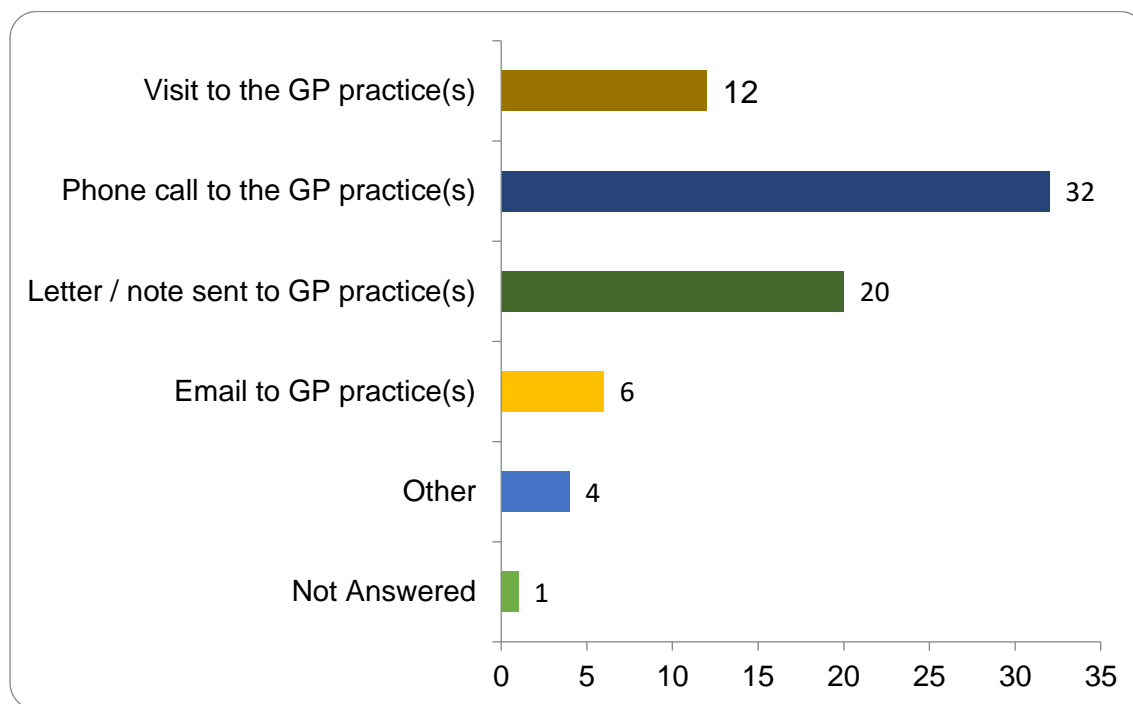


Figure 21: A chart summarising how community pharmacists informed GP practices about the Pharmacy First UTI service.

An agreement was made with GP practices on how suitable patients would be referred from the practice to the pharmacy by 79% of the pharmacists who responded to the evaluation survey. The remainder of the respondents did not indicate whether they did or did not have an agreement in place.

Appropriateness of referrals

Thirty-nine of the pharmacists confirmed that patients were referred to the service from the GP. Participants were asked to rate on a scale of 1-5 (1 being not at all appropriate and 5 being very appropriate), how appropriate the GP practice referrals were in general. Fifteen of the participants (31%) selected an indicator of “4” suggestive of an appropriate referral and an indicator of “5” was selected by 13% of the pharmacists suggesting the referral was very appropriate. None of the pharmacists reported that referrals were “Not at all appropriate” however 38% (N=18) responded in the middle of the scale probably due to pharmacist coming across both appropriate and inappropriate referrals.

While in general sense pharmacists were sitting in a neutral or positive position that referrals were appropriate when asked if any of the referrals were inappropriate 63%

of respondents replied to confirm that some of the referrals were inappropriate. The reasons for this are presented in Table 9. Over half of the participants indicated patients being referred who sit outside of the age criteria (54%) to be the leading reason for inappropriate referrals.

Table 9: A table summarising the reasons why some referrals to the Pharmacy First UTI service were inappropriate

Reason why a referral was considered inappropriate	No of responses	% of responses
The patient was male OR female < 16 or > 64 years	26	54%
The patient had renal impairment	7	15%
The patient was a temporary resident OR resident in a care home	1	2%
The patient was pregnant	9	19%
The patient had received more than one antibiotic for UTI in the previous 6 months OR more than 2 in 12 months	18	38%
The patient uses urinary catheters	4	8%
The patient had symptoms suggesting other vaginal and urethral causes	7	15%
The patient had symptoms suggestive of more serious systemic illness such as pyelonephritis or sepsis	13	27%
Other	2	4%
Not Answered	18	38%

Only two respondents (N=2/48) provided additional detail on referrals that they deemed inappropriate. Of these two cases one was a male and the other only had one kidney and a history of UTIs.

Referral of patients from Pharmacy First UTI service

Just over half of the pharmacists advised that their pharmacy has a process in place to make referrals from the pharmacy to the GP Practice for review and just under half did not confirm they did not have a process in place. Many of the pharmacists (58%) made a referral to another health professionals as part of the pilot.

Do you think that the Pharmacy First UTI service was beneficial to your patients?

Most (96%) of the pharmacists felt the Pharmacy First service was beneficial to their patients (Table 10). Additional information regarding perceived benefits for patients was provided by eight pharmacists. The additional benefits for patients listed by pharmacists included:

- The service offering a more convenient way for patients to access treatment rather than through GP or OOH services, and
- The pharmacy providing a relaxed environment where patients did not feel rushed and had the opportunity to discuss additional symptoms such as thrush and menopausal symptoms.

Table 10: A table presenting the reasons why the Pharmacy First UTI service was beneficial to patients

Reasons why the Pharmacy First service was beneficial to patients	No. of responses	% of responses
Patient had quicker access to advice and / or treatment	45	94%
Provided an opportunity for patient to gain knowledge to enable them to recognise and manage similar symptoms in the future	32	67%
Other	5	10%
Not Answered	2	4%

Only two pharmacists (N=2/48) indicated that they felt the Pharmacy First UTI service was not beneficial to patients. Both individuals provided further reasons for their answer. One respondent had been unable to commence the service in their practice due to a number of reasons including time constraints with vaccinations; hence

patients had not been able to benefit from the service. The other respondent stated they were not aware of the service.

Acceptability of the provision of the Pharmacy First UTI Service

Pharmacists were asked to respond to a question on how acceptable provision of the service was to the pharmacy overall. Figure 22 presents a clear chart showing that 98% of the pharmacists found provision of the service either “Completely Acceptable” or “Acceptable”. Only 2% of the pharmacists found the service “Completely unacceptable”. Other response options given on the survey included “No Opinion”, “Unacceptable” and “Other” all of which received no responses.

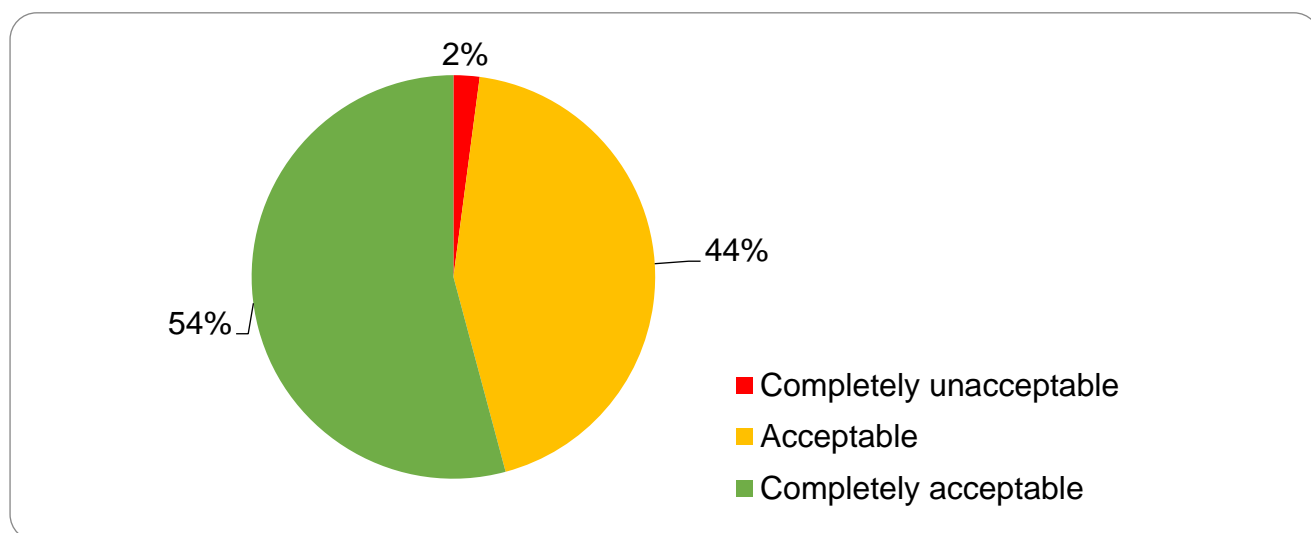


Figure 22: A chart presenting acceptability of the Pharmacy First UTI service within the community pharmacy setting

NIECR use during the initial consultation

NIECR was used by 46% of the pharmacists who responded to the evaluation survey. The remainder advised they did not use NIECR. The main reason selected by 12 pharmacists for not using NIECR was because the ‘Patient symptoms did not require treatment with antibiotics’. In addition to pharmacists not accessing NIECR because their patients did not require antibiotics for their symptoms, two further reasons emerged from additional feedback from respondents who hadn’t accessed NIECR during the pilot (N=17/48). These were:

- Pharmacist had access to relevant information through their own PMR (N=6/17), or patients were able to provide sufficient information (N=2/17)
- Pharmacist (N=5/48) was unable to access NIECR for a range of reasons including: no password, system errors, or lack of compatibility with pharmacy software.

There were a number of pharmacists (42%) who experienced difficulty accessing NIECR.

The majority of respondents 85% found the training resources on the use of NIECR useful, 83% found NIECR useful and 71% felt NIECR provided enough information. Participants were asked for feedback on what else would be helpful to be able to access on the NIECR system. Access to recent blood tests (25%) was suggested and access to patient medical history (25%) was also suggested. Five participants provided further detail on other access that would improve the service. Three of these individuals highlighted how the standard operating procedure stated they were to review patient history for the past 12 months but the NIECR only showed the last six months, so this needed to be resolved. One respondent felt access to previous urinary screens was required and the other individual believed pharmacists should have open access.

Urine dipstick testing

Most of the pharmacists (81%) confirmed that they had used a urine dipstick test and they mainly found this helpful (83%) as part of the clinical decision making on whether to supply an antibiotic or not. Some of the pharmacists reported they did not find the urine dipstick test helpful. Of the eight individuals who stated they did not find urine dipstick test results helpful, two explained that it was unnecessary to test urine. The reason being that patients always had more than two to three symptoms. One individual felt the urine dipstick test results were “really hard to interpret”.

A number of pharmacists (N=13/48) who had used the urine dipstick testing and experienced practical difficulties/issues provided further detail. Issues experienced included:

- Needing to have correct equipment, such as kidney dishes and gloves to ensure it was a sanitary process.
- Patients using a range of “different vessels” for collecting samples which were not practical.
- Patient's failing to produce a sample at their consultation and having return with a sample later.
- The need to find a suitable environment to conduct the testing that didn't take pharmacists away from a busy dispensary for a period of time.
- Limited availability for patients to use pharmacy toilet facilities due to factors such as Covid or patient mobility problems.
- Hygiene issues surrounding disposal of urine.

Inappropriate/appropriate antibiotic prescribing

The majority of the pharmacists (81%) felt their awareness of issues relating to antimicrobial resistance improved as a result of providing the service with 92% of the pharmacists also reporting that the service had a positive impact on the appropriate / inappropriate prescribing of antibiotics for UTI.

The majority of respondents (N=40/48) provided further detail on why they thought the service had positively impacted the appropriate prescribing of antibiotics for UTI. Three main aspects were highlighted as positively impacting antibiotic prescribing.

- 1 Patients received education as part of the consultation with regards to why antibiotics are not always needed and what symptoms to look out for in similar conditions such as vaginal thrush, pyelonephritis and other bacterial infections. In addition, pharmacists were able to discuss alternative treatment options with patients including the watch and wait policy before issuing antibiotics. As the pharmacist is in a very accessible position if alternative treatment or self-help techniques do not work then the patient feels reassured that they can return at any time if symptoms worsen.
- 2 Improved level of urine dipstick testing through the service resulting in reduced antibiotic prescribing. There was a sense that in many instances where a GP would have prescribed an antibiotic via remote consultation, the pharmacist

review and urine dipstick testing as part of the UTI service limited unnecessary prescribing.

- 3 The UTI service promoted evidence based prescribing of antibiotics and ensured appropriate checks before prescribing antibiotics. One example provided was the potential to lower antibiotic resistance risk by not using trimethoprim if it had been used in previous three months.

Challenges faced

Participants were asked if they faced challenges in running this service. Table 11 summarises the nature of challenges faced with more than half of the pharmacists advising workload pressures as the main challenge.

Table 11: A table presenting challenges faced by Pharmacists participating in the Pharmacy First UTI project

Nature of challenges faced	No. of responses	% of responses
Lack of patients to refer to the service	9	19%
Service not adequately promoted to the public	8	17%
Workload pressures	25	52%
Other	7	15%
Not Answered	18	37%

In addition to the challenges already highlighted respondents identified IT issues, particularly issues with NICER, as being a further challenges to delivering the service.

“IT issues made providing the service extremely difficult as could take 30mins or more to get NICER access.”

“Lack of storage on secure email account 200mb. Delayed sending claim forms as needed to delete emails to enable forms to be emailed. This issue needs to be resolved asap and definitely before rollout.”

A summary of feedback from Service Users, GPs and Community Pharmacists

Positives

- Pharmacists capable in dealing with management of UTI's.
- Fantastic Service with which we are more than happy to engage with our Pharmacy colleagues
- Very beneficial service, would highly recommend the roll out to all pharmacies.
- Expanding more services like this for common infections would help shift the public's perceptions that every health problems requires input from GPs and gradually shift patients to self-manage common health problems, freeing up GP's to deal with more complex patients and problems
- It shows community pharmacy in a positive light and would relieve pressures on GP practices. It also shows that pharmacy is more than able to facilitate more services of similar nature with immediate effect.
- Patients liked the easy and prompt access to a health professional
- All patients found the service very rewarding, easily accessible and in cases, educational. It allowed them to learn symptoms to help diagnose further possible UTIs in the future.
- I was happy to deliver the service and felt the more consultations I did the more confident I became

Negatives

- Phone call after 72hrs was logistically problematic
- Competing workload pressures
- Labour intensive
- Practicality of consultation rooms is a problem during the Covid-19 pandemic due close contact
- Understaffing within the pharmacy
- Funding for the pilot service is not enough
- Some pharmacies felt there weren't many referrals
- Needs better engagement with GP Practice
- As it is currently only a small number of pharmacies offering this service it makes it very difficult for GP admin staff to direct patients away from the GP to the community pharmacies.
- Don't think it is likely to have an effect on the number of GP consultations for a UTI.
- Some GPs reported that they haven't heard of patients using the service.
- Patients would not have travelled outside of the area to avail of the service.

A summary of the suggestions for the of the Pharmacy First UTI service moving forward according to Service Users, GPs and Community Pharmacists

A summary of suggestions

- Increased awareness of service for service users and health professionals (Leaflets, TV advertisements, Social Media)
- A referral via phone from the patient or GP practice initially (To enable the pharmacist to manage their time to avoid peak times within the pharmacy)
- GP practice to be notified of treatment (so they can monitor for recurrent UTIs)
- Training to include GP receptionist staff
- Live workshop training
- Private consultation rooms
- Send urine samples off for testing
- Pharmacists to be able to access health care information on patients for example blood test results
- More resources/referral template for GP practices Direct engagement from
- HSC Board to GP practices regarding referral process
- Increase in age range/ emphasis to public on the age range
- IT processes in NI to be streamlined
- Consider more prescribing rights for pharmacists
- Expand the programme to include all patients presenting with a UTI
- Linked IT systems within NI
- Increased use of Urine dipstick testing to be considered
- Access to approved sample bottles
- Less paperwork
- Longer duration of antibiotics required for some patients
- Remuneration fee to be re-assessed
- Train pharmacy technicians
- Logistics of follow up phone call to be considered
- A small pharmacist focus group to feedback on the consultation form

Conclusion

The Pharmacy First consultation record reported the GP as the main source of referrals in the project. Taking on board some of the suggestions such as enhanced training at the GP practice, referrals paperwork and increased awareness would help to boost this method of referral. In addition increased awareness overall will help to increase the numbers of service users accessing the service through other methods such as self-referring and referral via community pharmacist.

Most of the consultations took less than 20 minutes and most were facilitated via non-independent prescribing pharmacists. Some of suggestions for roll out of the service include training a Pharmacist Technician to facilitate part of the consultation.

In patients with 2-3 key symptoms (N = 798), 248 had a urine dipstick test with 234 testing positive. Patients presenting with only 1 key symptom (N = 183), 115 had a urine dipstick test with 80 testing positive. Despite presenting with none of the key symptoms (N = 51) some still had a urine dipstick test

The majority of patients were diagnosed as UTI likely or UTI likely to other diagnosis. The action taken as a result of this diagnosis was varied, however verbal advice was the most common reported action taken with medicine supplied as the next. A small proportion of consultations resulted in referral to another health professional.

At the 72 hour follow up over half of service users reported their signs and symptoms had improved with antibiotics treatment. Only a small number reported their condition had deteriorated. Unfortunately follow up data was not recorded for all patients.

The results of the service user evaluation confirmed a high level of satisfaction with the service and that most service users would use the service again and would also recommend this service to friends and family. The main feedback from service users was for increased awareness and improved signposting of the service.

The majority of GPs reported that they felt the service was beneficial to patients and that referrals to the Pharmacy First UTI pilot service seemed to be well received by patients. Lack of public awareness was the main challenge highlighted

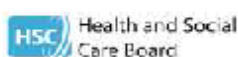
Pharmacists reported that the majority of referrals came from the GP. Most of the referrals were appropriate and of the inappropriate referrals the service user falling

outside of the age range for the service was the main reason. There have been suggestions to increase awareness of the age range and also to expand the age range that the service can facilitate. Nearly all of the pharmacists felt the service was beneficial to service users. Out of the 48 pharmacists who responded to the evaluation survey 40 reported that they used a urine dipstick test and found this helpful as part of the clinical decision making on whether to supply an antibiotic or not. Overall, provision of the Pharmacy First UTI Service was found to be well accepted by the community pharmacies that participated in the pilot. Workload pressures was the main challenge faced by pharmacists

All participant groups have given feedback to be considered by the SPPG in the future roll out of this service. The main feedback across all of the participant groups was the need for increased awareness of the service, however it is acknowledged that this project was a small pilot. Overall the feedback on the service has been very positive with the stakeholders involved reporting that the service should be considered for roll out to all community pharmacies.

APPENDICIES

Appendix 1 - Consultation form



Pharmacy First PILOT Service for uncomplicated UTI: Patient Consultation Form

Patient Name, Address & Postcode		Pharmacy Name, Address & Postcode	
H&C No. (if known)		Telephone number	
Date of Birth		Contractor Number	
GP Practice & Address		Pharmacist's name	
		Date of consultation	
1. Initial assessment			
Any patient presenting with pyrexia; whether suspected UTI, more serious systemic infection or COVID-19 must be referred to their GP practice and must NOT enter the pharmacy. The pharmacist makes an initial assessment of patients with symptoms of suspected UTI referring to the service guidance and checking the patient's Electronic Care Record (ECR) Excluded patients should be referred to their GP or Out Of Hours (OOH) medical centre or sign-posted to other services e.g. GUM clinic as appropriate - Complete section 7			
2. Consultation details (ensure privacy notice discussed with patient and verbal consent for service obtained)			
Consultation type: In person in the pharmacy <input type="checkbox"/> , Via telephone consultation <input type="checkbox"/> , Via video consultation <input type="checkbox"/>			
Referral method: Self-referral <input type="checkbox"/> , By pharmacist <input type="checkbox"/> , By GP practice <input type="checkbox"/> , By OOHs <input type="checkbox"/> , Other <input type="checkbox"/> specify _____			
Duration of consultation: less than 10 mins <input type="checkbox"/> , 10 to 20 mins <input type="checkbox"/> , > 20 mins <input type="checkbox"/> , Other <input type="checkbox"/> specify _____			
Consultation carried out by: Independent Prescriber (IP) pharmacist <input type="checkbox"/> , NON-IP pharmacist <input type="checkbox"/>			
3. Consultation			
Does the patient have any of the 3 key diagnostic signs/symptoms? Dysuria (burning pain when passing urine) <input type="checkbox"/> , New nocturia (passing urine more often than usual at night) <input type="checkbox"/> , Urine cloudy to the naked eye <input type="checkbox"/>			
Are there other urinary symptoms that are severe? Urgency <input type="checkbox"/> , Visible haematuria <input type="checkbox"/> , Frequency <input type="checkbox"/> , Suprapubic tenderness <input type="checkbox"/> , Other <input type="checkbox"/> specify _____			
Was a urine dipstick test performed Yes <input type="checkbox"/> / No <input type="checkbox"/> if YES what were the results? NITRITE positive <input type="checkbox"/> or negative <input type="checkbox"/> , LEUKOCYTE positive <input type="checkbox"/> or negative <input type="checkbox"/> , RBC positive <input type="checkbox"/> or negative <input type="checkbox"/>			
Any other relevant medical history? Immunocompromised <input type="checkbox"/> Kidney disease <input type="checkbox"/> Other _____			
4. Findings of consultation		5. Consultation outcomes	
Symptoms indicative of: UTI likely <input type="checkbox"/> , UTI equally likely to other diagnosis <input type="checkbox"/> , UTI unlikely <input type="checkbox"/> , Other <input type="checkbox"/> , give details _____		Verbal advice provided Yes <input type="checkbox"/> / No <input type="checkbox"/>	
		Written advice provided Yes <input type="checkbox"/> / No <input type="checkbox"/>	
		Medicine(s) supplied (complete section 6) Yes <input type="checkbox"/> / No <input type="checkbox"/>	
		Additional OTC medicine purchased _____ Yes <input type="checkbox"/> / No <input type="checkbox"/>	
		Referred to other healthcare professional (see section 7) Yes <input type="checkbox"/> / No <input type="checkbox"/>	
6. Confirm medicine(s) supplied			
Nitrofurantoin MR 100mg twice a day x 6 Or nitrofurantoin 50mg four times a day x 12	✓	Trimethoprim 200mg twice a day x 6	✓
Ibuprofen 400mg three times a day x 24		Paracetamol 500mg 2 x 4-6 hourly prn x 32	
7. Referral to another healthcare professional (e.g. GP, OOH GP, GUM clinic)			
Reason for referral:			
8. Patient declaration			
The patient has confirmed they have: received advice and/or treatment listed above <input type="checkbox"/> , understood that details of this consultation will be shared with GP practice, HSCB & MOIC <input type="checkbox"/> , consented to the pharmacist contacting them 72 hours after this consultation for follow up and have provided contact phone no: _____ for this purpose <input type="checkbox"/>			
If this service hadn't been available would the patient have: contacted the GP <input type="checkbox"/> , contacted OOHs <input type="checkbox"/> , attended ED <input type="checkbox"/> other <input type="checkbox"/>			
9. Outcomes from follow-up (72 hours)			
Symptoms cleared with self-care only <input type="checkbox"/> , symptoms cleared with AB from pharmacy <input type="checkbox"/> , condition deteriorated <input type="checkbox"/> , Patient contacted GP / OOHs <input type="checkbox"/> , give details / outcome _____ other <input type="checkbox"/> give details _____			
Has the pharmacist emailed the survey link to the patient Yes <input type="checkbox"/> / No <input type="checkbox"/>			
Patient email address: _____			

Appendix 2: A summary of Northern Pharmacies Ltd. only data

- 6 contractors from Northern Pharmacies invited to participate in the service
- 4 contractors submitted data for the service
- Data has been summarised on the 4 contractors who submitted data for the service
- 2 of the contractors were from the South Eastern LCG area
- 2 of the contractors were from the Southern LCG area
- 144 patients in total were from Northern Pharmacies contractors
- 40 patients were from South Eastern LCG area
- 104 patients were from Southern LCG area

Table 1: Total no. of patients

LCG area	Contractor Analysis ID	No. of patients
South Eastern	SE1	36
South Eastern	SE1	4
Southern	S1	10
Southern	S2	94
		144

Summary 2-3 Key Symptoms

- 99 patients presented with 2- 3 key symptoms
- 96 of these patients had a urine Dipstick Test
- 86 urine dipstick tests were positive
- Antibiotics were prescribed for 77 patients who had a positive urine dipstick test
- 10 urine dipstick tests were negative
- Antibiotics were prescribed for 0 patients who had a negative urine dipstick test
- 3 patients did not have a urine dipstick test
- Antibiotics were prescribed for 1 patient who did not have a urine dipstick test

Summary 1 Key Symptom

- 32 patients presented with 1 key symptoms
- 31 of these patients had a urine Dipstick Test
- 19 urine dipstick tests were positive
- Antibiotics were prescribed for 11 patients who had a positive urine dipstick test
- 12 urine dipstick tests were negative
- Antibiotics were prescribed for 1 patient who had a negative urine dipstick test
- 1 patient did not have a urine dipstick test
- Antibiotics were not prescribed for the patient who did not have a urine dipstick test

Summary 0 Key Symptoms

- 13 patients presented with 0 key symptoms
- 12 of these patients had a urine Dipstick Test
- 4 urine dipstick tests were positive
- Antibiotics were prescribed for 1 patient who had a positive urine dipstick test
- 6 urine dipstick tests were negative

- Antibiotics were prescribed for 0 patients who had a negative urine dipstick test
- 1 patient did not have a urine dipstick test
- Antibiotics were not prescribed for the patient who did not have a urine dipstick test

Appendix 3: Service User Evaluation Survey Questions

1: How did you find out about the service?

Response options:

- Pharmacist recommendation
- Referral from your GP practice
- Referral from the out of hours service
- Poster
- Word of mouth
- Social media
- Other

Other:

2: Did the pharmacist provide advice on the management of your symptoms?

Response options:

- Yes
- No
- Not sure

3: Was this advice helpful?

Response options:

- Yes
- No
- Not sure

4: If you had similar symptoms in the future how likely would you be to use the service again?

Response options:

- Very likely
- Likely
- I don't know
- Unlikely
- Very unlikely

5: How likely would you be to recommend the service to friends and family?

Response options:

- Very likely

- Likely
- I don't know
- Unlikely
- Very unlikely

6: How satisfied were you with the service overall?

Response options:

- Very satisfied
- Satisfied
- I don't know
- Unsatisfied
- Very unsatisfied

7: Would you feel more confident to manage these symptoms yourself in the future?

Response options:

- Yes
- No
- Not sure

8: If this service had not been available, what would you have done?

Response options:

- Nothing
- Managed the symptoms yourself
- Contacted your community pharmacist
- Contacted your GP practice
- Contacted the out of hours service
- Attended the emergency department
- Other

Other:

9: Do you have any other feedback or suggestions to improve the service?

Open Text:

Appendix 4: GP Practice Evaluation Survey Questions

1: Please indicate your job role:

Response options:

- GP
- GPP
- Practice Nurse
- Other

Other:

2: Please indicate the LCG area in which you work:

- Western LCG
- Northern LCG
- Southern LCG
- South-Eastern LCG
- Belfast LCG

3: Are you aware of the Pharmacy First pilot service for the management of uncomplicated UTIs in women aged 16 – 64 years?

Response options:

- Yes
- No

4: How did you find out about the service? (You can select more than one answer).

Response options:

- Phone call, email, note or other contact from a pharmacy providing the service
- HSCB communication
- Social media
- Other

Other:

5: Are you aware of any patients referred from your GP practice to the Pharmacy First UTI pilot service?

Response options:

- Yes
- No

6: Was it clear from service documentation which patients were eligible for referral to the service?

Response options:

- Yes
- No

7: Are you aware of any patients who had a consultation with the GP because they did not want to be referred to the Pharmacy First UTI pilot service?

Response options:

- Yes
- No

8: Are they aware of any patients who did not want to be referred & had a GP consultation instead?

Response options:

- Yes
- No

9: If possible, please indicate why patients did not want to be referred to the Pharmacy First UTI pilot service?

Response options:

- Patients usual pharmacy was not one of the pharmacies providing the service as part of the pilot
- Patient preferred a consultation with the GP practice
- Other
- Don't know

Other:

10: Are you aware of any patients referred, by the pharmacist, to your practice for GP review as an outcome of the Pharmacy First UTI consultation?

Response options:

- Yes
- No

11: Were patient referrals appropriate?

Response options:

- Yes
- Not always

12: Please provide an example of an inappropriate referral:

Open text:

13: In your opinion, how well were referrals to the Pharmacy First UTI pilot service received by patients?

Response scale: 1 being- not well at all and 5 being- very well

14: Do you think the Pharmacy First UTI service was beneficial to patients?

Response options

- Yes
- No
- Not sure

15: Why do you think the service was beneficial? (Please select all that apply)

Response options:

- Patient had quicker access to advice and / or treatment
- There was an option to dip a urine sample (when necessary) to help confirm diagnosis and reduce inappropriate prescribing of antibiotics
- The service provided an opportunity for patient education about self-care and ways to help reduce the risk of recurrence
- Other

Other:

16: The Pharmacy First UTI pilot service had a beneficial impact on GP workload.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

17: Please provide further information on the benefits the service brought your GP practice (please select all that apply).

- Fewer patient requests for appointments with GPs

- Decrease in the number of prescriptions issued for symptomatic relief of uncomplicated UTI
- Decrease in the number of prescriptions for an antibiotic for UTI
- Other

Other:

18: Did the Pharmacy First UTI pilot service adversely affect your GP practice?

Response options:

- Yes
- No
- Not always?

19: Please indicate how the UTI pilot service adversely affected your GP practice (select all that apply).

- Workload in managing referrals of eligible patients to the pharmacy
- Workload in managing referrals from the pharmacist following a consultation in the pharmacy
- Admin involved on receipt of completed consultation forms
- Managing patient expectations
- Managing patient complaints
- Other

Other:

20: Did you experience any challenge(s) in facilitating this service?

Response options:

- Yes
- No

21: Please indicate the nature of challenges faced whilst facilitating the service (select all that apply).

Response options:

- Lack of information provided about the service
- Lack of time to implement triage and referral of eligible patients
- Service not adequately promoted to the public
- Lack of patients to refer to the service
- Other workload pressures
- Other

22: Community Pharmacists are best placed to deal with treatment and advice on uncomplicated lower urinary tract infections in women.

Response options:

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

23: The Pharmacy First UTI pilot service should be considered for roll out to all community pharmacies.

Response options:

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

24: Do you have any other feedback or suggestions?

Open text:

Appendix 5: Pharmacist Evaluation Survey Questions

Please note some of the questions within this survey were for service development purposes only within SPPG. Therefore not all the questions within this survey have been included within the evaluation conducted by MOIC.

1: Please tick the LCG area in which you work:

Response options:

- Western LCG
- Northern LCG
- Southern LCG
- South-East LCG
- Belfast LCG

2: Did you make your local GP practice(s) aware that your pharmacy was providing the Pharmacy First UTI pilot service?

Response options:

- Yes
- No

3: How did you inform the GP practice(s)?

Response options:

- Visit to the GP practice(s)
- Phone call to the GP practice(s)
- Letter / note sent to GP practice(s)
- Email to GP practice(s)
- Other

Other:

4: Did you agree with GP practices how suitable patients would be referred from the practice to the pharmacy?

Response options:

- Yes
- No

5: Were patients referred from the GP practice to the Pharmacy First UTI Service?

- Yes
- No

6: On a scale of 1-5, how appropriate were the GP practice referrals in general?

Response Scale: 1 being not at all appropriate and 5 being very appropriate

7: Did you consider any of the referrals to be inappropriate?

Response options:

- Yes
- No

8: Please indicate the nature of referrals you considered inappropriate (tick all that apply).

Response options:

- The patient was male OR female < 16 or > 64 years
- The patient had renal impairment
- The patient was a temporary resident OR resident in a care home
- The patient was pregnant
- The patient had received more than one antibiotic for UTI in the previous 6 months OR more than 2 in 12 months
- The patient uses urinary catheters
- The patient had symptoms suggesting other vaginal and urethral causes
- The patient had symptoms suggestive of more serious systemic illness such as pyelonephritis or sepsis
- Other

Other:

9: Was a mechanism agreed for the referral of patients from your pharmacy to the GP practice, for those patients requiring GP review?

Response options

- Yes
- No

10: Did you make any referrals for your patients to another health professional as part of the pilot?

Response options:

- Yes
- No

11: Do you think that the Pharmacy First UTI service was beneficial to your patients?

Response options

- Yes
- No

12: Why do you think the Pharmacy First UTI Service was not beneficial to patients?

Open text response:

13: Why do you think that the Pharmacy First UTI Service was beneficial to your patients? (Select all that apply).

Response options:

- Patient had quicker access to advice and / or treatment
- Provided an opportunity for patient to gain knowledge to enable them to recognise and manage similar symptoms in the future
- Other

Other:

14: Overall, how acceptable was provision of the Pharmacy First UTI Service to your pharmacy?

Response Options:

- Completely acceptable
- Acceptable
- No opinion
- Unacceptable
- Completely unacceptable

15: Do you have any feedback on the consultation form?

Response options:

- Yes
- No

Additional information:

16: During the initial consultation did you access NIECR for every patient?

Response options:

- Yes
- No

17: Please indicate why NIECR was not accessed for every patient.

Response Options:

- Patient symptoms did not require treatment with antibiotics
- Other

Other:

18: Did you experience any difficulty accessing NIECR?

Response options:

- Yes
- No

Additional information:

19: Were the training resources on the use of NIECR useful?

Response options

- Yes
- No

20: Did you find NIECR useful?

Response options

- Yes
- No

21: Was there enough information available on NIECR to provide the service effectively?

Response options:

- Yes
- No

22: In addition to medications and allergies, please indicate what other access would improve the service.

- Access to recent blood tests such as kidney function
- Access to patient medical history including diagnosis
- Other

Other:

23: Did you carry out urine dipstick testing as part of the service?

Response options

Yes

No

24: Did you find the results of the urine dipstick testing helpful as part of the clinical decision to supply an antibiotic or not?

Response options:

- Yes
- No

25: Please give details on why you did not find urine dipstick test results helpful:

Open text response:

26: Were there any practical difficulties / issues around urine dipstick testing?

Response options:

- Yes
- No

27: Please give details of the practical difficulties/ issues you experienced with urine dipstick testing:

Open text:

28: Would you consider your awareness of issues relating to antimicrobial resistance (AMR) to have improved as a result of providing the service?

Response options

- Yes

- No

29: Do you think this service has had a positive impact on the appropriate / inappropriate prescribing of antibiotics for UTI?

Response options

- Yes
- No

30: Please give further details on why you think the service has positively impacted the appropriate/inappropriate prescribing of antibiotics for UTI:

Open text:

31: Did you utilise any of the following resources available on the BSO Website? (please tick all that apply)

Response options

- Service specification and guidance
- Nitrofurantoin PGD
- Trimethoprim PGD
- NPA Template SOP uncomplicated LUTI
- NIECR training
- Community pharmacy ECHO training
- Training Presentation for GP Practices
- Target UTI Leaflet
- Promotional materials
- Other

Other:

32. If you did access information from the BSO website, was this information helpful?

Response options:

- Yes
- No

33: Please give details of any unmet training requirements or resource improvements:

Open text

34: Did you experience any challenges in facilitating the service?

Response options:

- Yes
- No

35: Please indicate the nature of challenges you experienced (select all that apply):

- Lack of patients to refer to the service
- Service not adequately promoted to the public
- Workload pressures
- Other

Other:

36: Do you have any other feedback or suggestions to improve the service?

Open text:

37: Are you an independent prescriber?

Response options

- Yes
- No

38: As an independent prescriber, please rate (1-5) how much use of your clinical skills was made whilst delivering the service

Response Scale: 1 being no use at all and 5 being used all of the time

39: For future services requiring your clinical skills as an independent prescriber, what training resources would you consider most beneficial? (Select all that apply).

Response options

- ECHO evening training sessions
- Recorded lectures
- Webinars
- Online courses
- Written materials
- Other

Other: