'Your Virtual Assistant': The patient experience of Ask NHS

March 2021

What was the project about?

Ask NHS is an online tool and app that offers patients another way to access frontline services. It contains a symptom checker, hosted by a virtual assistant commonly known as 'Olivia'. The virtual assistant asks people questions about their symptoms and helps direct them to the most appropriate care that is nearby. This might be your GP, NHS 111, 999 or self-referral to Healthy Minds. Self-care advice is also offered.

General Practices in Buckinghamshire are encouraging patients to use Ask NHS as one of the ways in which they can access services. Patients can also access the symptom checker on most GP websites, either through the Ask NHS banner or through a chat bot in the bottom right-hand corner.

We wanted to understand the patient experience of using Ask NHS, in particular the symptom checker, to access front line services such as GPs or urgent care.

We also wanted to help people understand more about how Ask NHS works to increase patient awareness and education.

What did we do?

We promoted our survey through social media. Our survey was available via our website and was sent out by GP surgeries, and to registered users of Ask NHS. We also ran a series of articles on our website about Ask NHS. We wanted to find out:

- How people accessed Ask NHS
- Their experience of using the symptom checker
- How they felt about the outcome of using the symptom checker
- Peoples' overall experience of using Ask NHS

What did we find?

In total we collected 185 valid responses. Of these:

+ 139 (75%) people had heard of Ask NHS.
+ Of those 139, 105 (76%) people had used it in the last 6 months.

We wanted to hear from people that had used Ask NHS recently, so we looked at the responses from the 105, who had used the service in the last 6 months, in more detail.

Using Ask NHS

We asked people how they accessed Ask NHS.

Don't know, 2

Website, 8

App on phone or tablet, 94
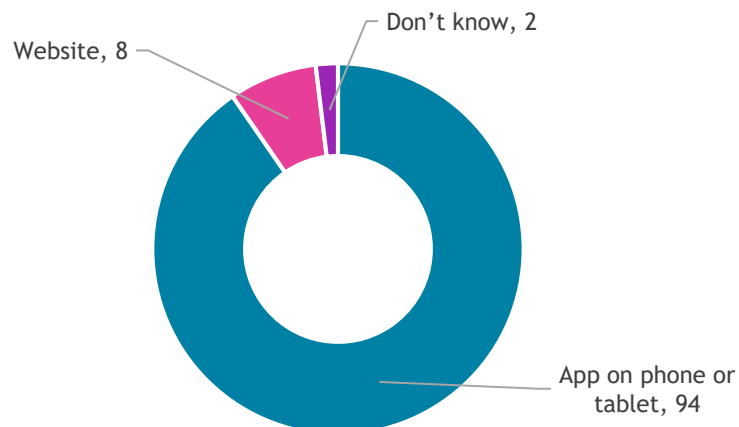
Most (90%) people used the Ask NHS app on their phone or tablet. Only 4 people used the website on a desktop, 3 of these told us they used their GP website to do this.
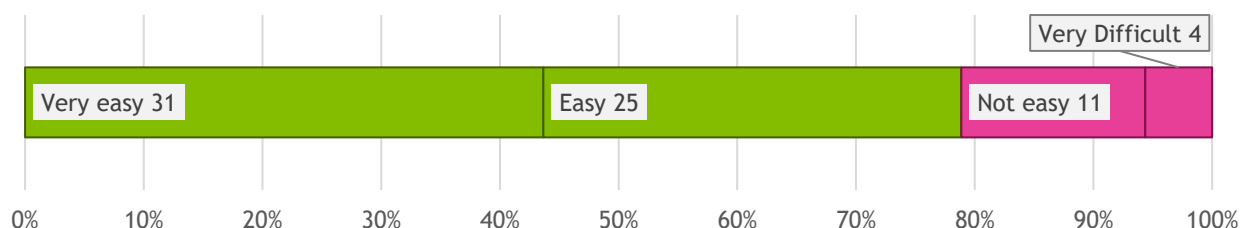
Using the Symptom Checker

77 (75%) people told us they had used the symptom checker. We asked several further questions about the symptom checker. Around 71 people answered these more detailed questions.

First, we asked people what they used the symptom checker for.

Injury 7
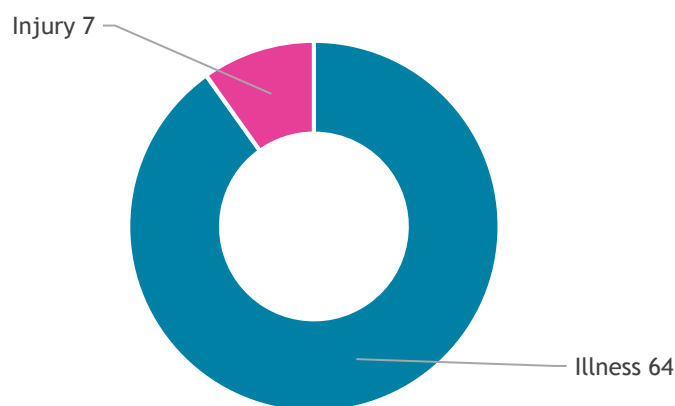
Illness 64

The majority (90%) used the symptom checker for illnesses.

We then asked people how easy it was to use the symptom checker.

Very Difficult 4

Very easy 31   Easy 25   Not easy 11

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

Almost 80% (56) found it easy or very easy to use.

We next asked if they found the questions being read out by the virtual assistant helpful.
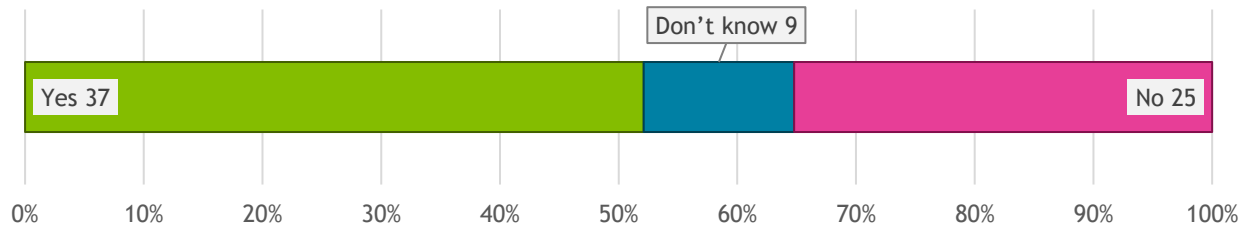
Just over half (52%) said, "yes", they found the virtual assistant helpful. This should be seen as a positive since "voice" in apps is a relatively new technology.

Finally, we asked people how the length of time to run through the symptom checker seemed.
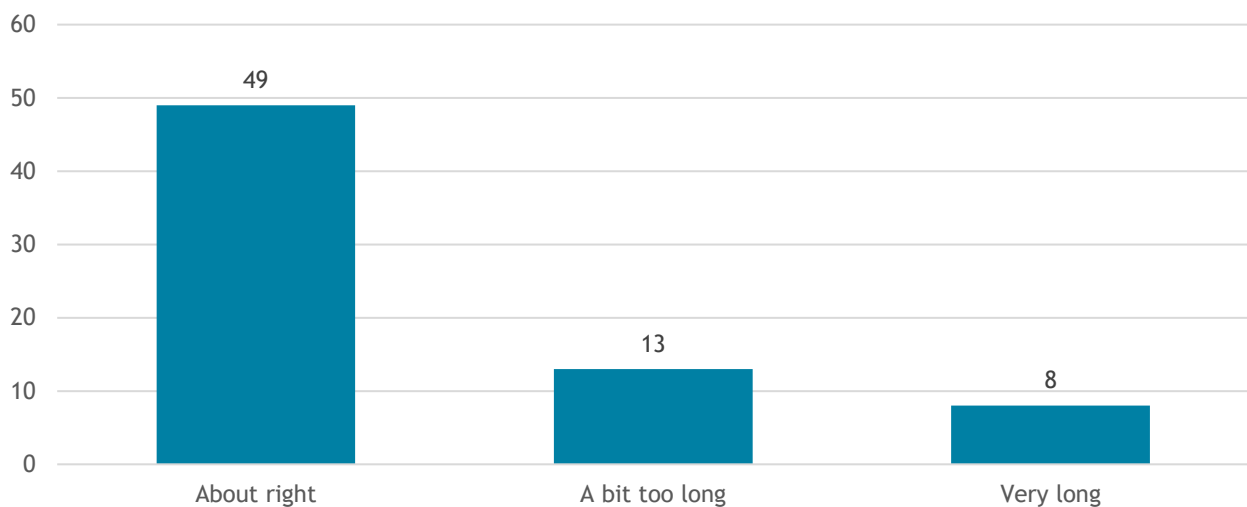
Most people, around 70%, said the time was "about right".

We found a link between ease of use of the symptom checker and the time it took to run through the symptom checker, but due to the small number of people who responded they cannot be declared statistically significant.

Summary

Most people used the symptom checker for an illness related issue and reported they found it very easy or easy to use and found the time it took to use it was about right.

> Quicker than going through the script at 111

30% told us they felt it took too long or a very long time to run through the symptom checker. Several expressed dissatisfactions around the questions asked not being useful in describing their symptoms.

> I had a number of symptoms and this only really gave me the option to select one, which did not give a clear picture of why I was calling and why I needed to speak to my GP.

> Not suitable for complex conditions - only for single health issues.

Outcome of using the Symptom Checker

We wanted to know if people felt that the outcome from using the symptom checker gave them the "result" they wanted.

First, we asked people what happened as a result of using the symptom checker.
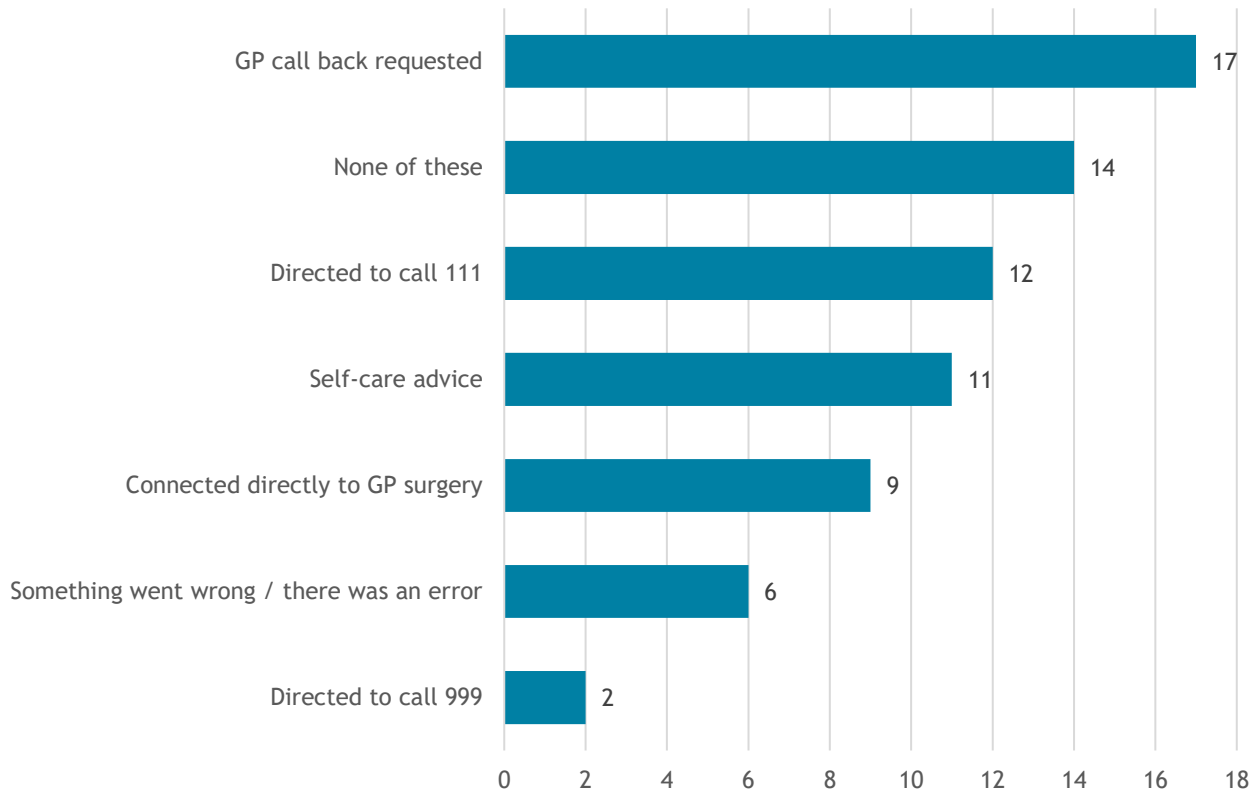
The outcome for 26 people was that a call back from a clinician was requested or they spoke to the GP directly. 25 people were directed to 999, 111 or self-care. 14 people responded, "None of these", which suggests our survey was missing some outcomes.

We then asked people how happy they were with the outcome of the symptom checker.
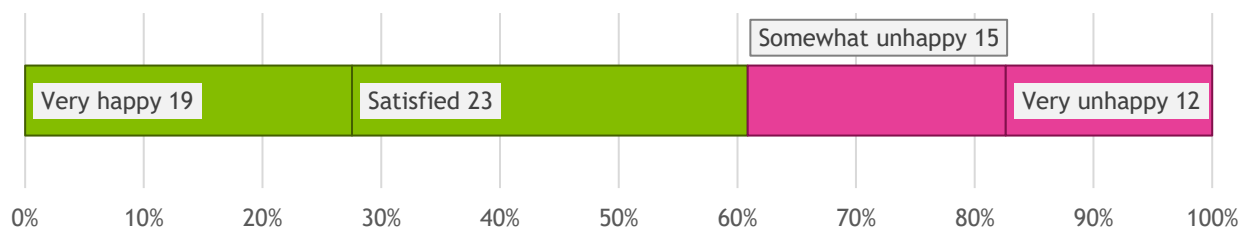
Just over 60% (42) of the responses were positive.

When we looked at this more closely, we found overwhelming evidence that people's satisfaction with the result varied based on whether they "got through to a GP" or not (see Appendix 2 – Statistical Tests). This finding is not unexpected, but it does suggest that users who "expect" to speak to a GP, but did not, will be less satisfied.

Summary

The most common response was that a GP call back was requested, and those who chose this response reported being very happy or satisfied with their outcome.

> Used it first time today and was most impressed - minor complaint but got phoned back within the hour and an appointment made same day

> It was very useful. It meant i received timely help without having to have a face-to-face contact in the middle of a pandemic

Some people felt it was quicker and easier to use Ask NHS to get an appointment with their GP than to call their GP surgery.

> Brilliant, easy to use, much better option that sitting on hold for ages to the GP

> I was able to get a call back and appointment quicker than I think I would have if I just called the GP

Those that were somewhat unhappy or very unhappy reported their outcome as 'none of these' or 'something went wrong/there was an error'.

Some people felt that the advice may have been "over cautious":

> It told me to ring 999 but I was absolutely sure that was the wrong thing to do (and was correct). I separately rang my GP for an appointment (which was only on the phone initially).

Patients need to understand that remote triage, like 111 or apps like Ask NHS, may offer advice that follows a "better safe than sorry" model. This could be aided by further explanation of why a specific outcome has been recommended. For example, "Because you said you had severe chest pain, you should call 999."

Contact with GP Surgery or a clinician

26 people told us that a call back from a clinician was requested, or they spoke to the GP directly. We asked these people how long they had to wait for a call back from their GP. 22 people answered this question.
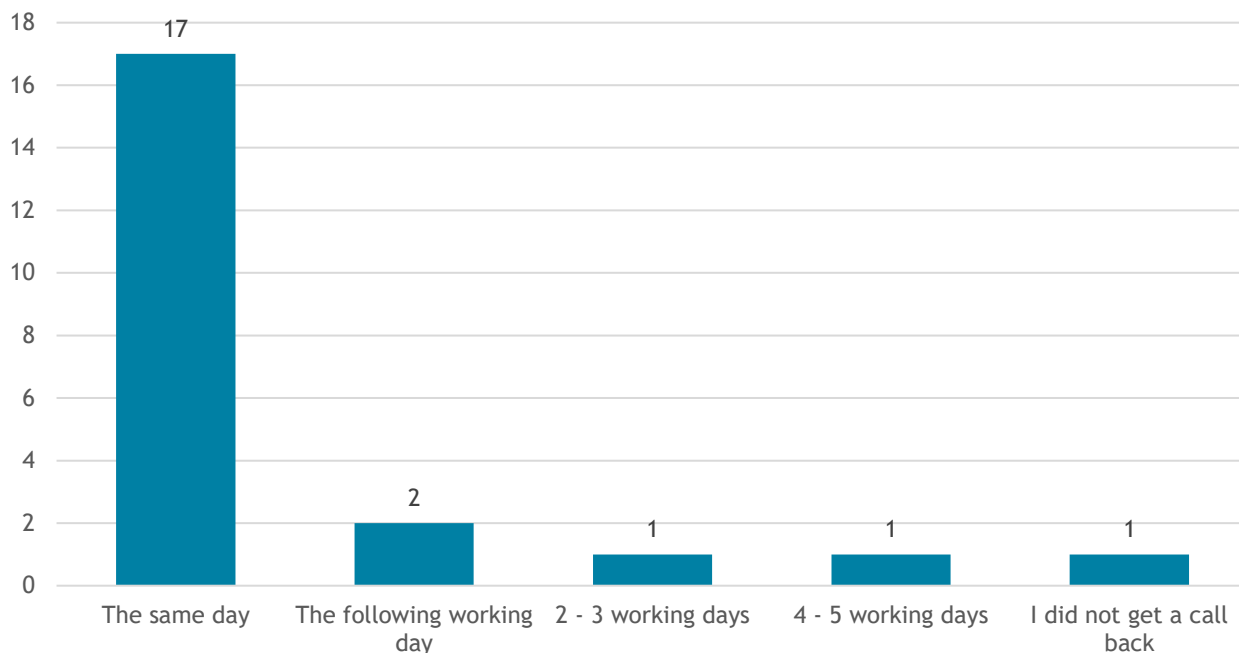
A clear majority (77%) said they spoke to someone on the same day.

We then asked these people if they felt the clinician had reviewed the symptoms recorded through Ask NHS.
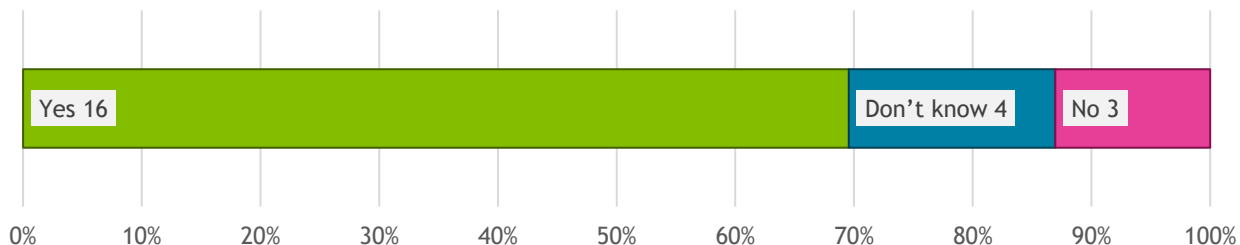
+ Most people, just under 70%, said "yes".

We then asked people if they had to repeat some of their symptoms to the clinician. We know from past feedback that repeating symptoms over is frustrating to patients.
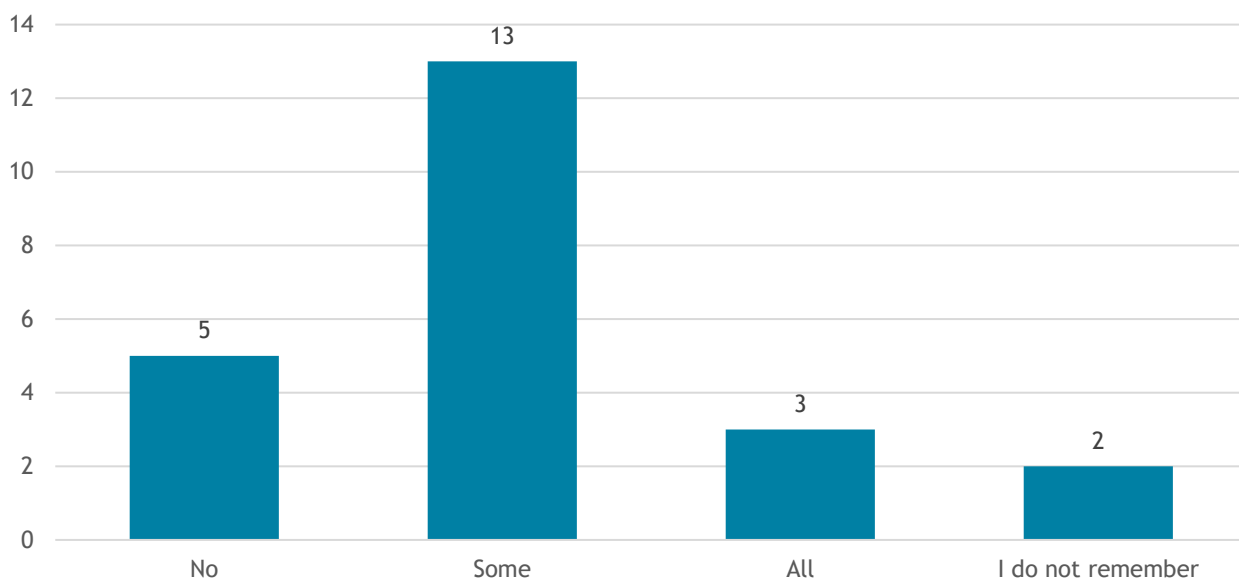
Only 3 people (13%) said they had to repeat all their symptoms.

Eight people told us they had a long-term condition or injury. We asked them if they felt the clinician showed any awareness of this.
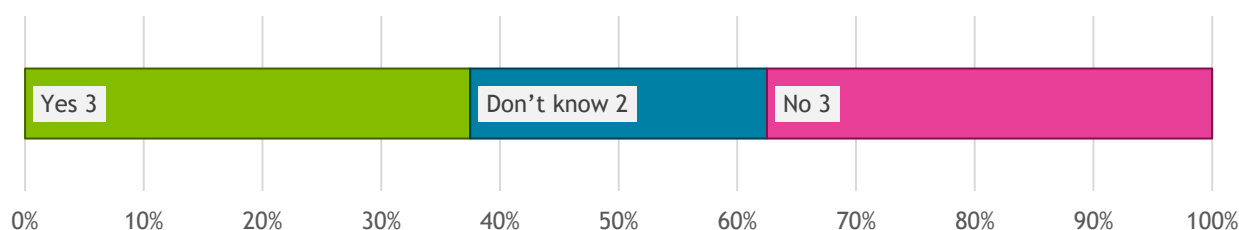
The responses were mixed and too few to draw any conclusions.

Summary

Most people told us they had a GP call back on the same day as using Ask NHS.

A number of people told us they had to repeat some of their symptoms to clinicians. Half of the people who told us they had a long-term condition felt the clinician knew about it.

Self-care advice

11 people told us that they were given self-care advice. We asked these people how happy they were with the quality of that advice.
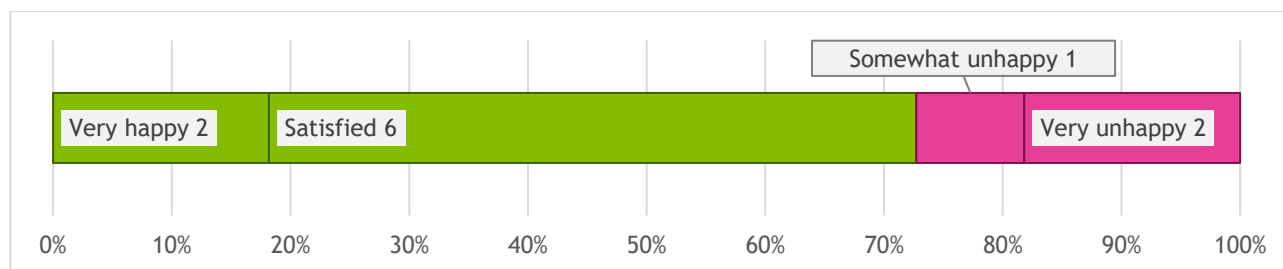
Over 70% were "very happy" or "satisfied". Both people that called their GP Surgery reported being "Very unhappy" with the quality of the self-care advice.

Eight people went on to seek further self-care advice elsewhere:

+ three looked for information online;
+ three went to a local pharmacy; and
+ two called their GP surgery.

Summary

Most people were satisfied with the self-care advice. However, some people (8/11) who received self-care advice from Ask NHS still went on to seek further advice elsewhere – mainly online or via a local pharmacy.

> Used self-care which didn't help my symptoms so spoke to surgery and managed to get an appointment with minor illnesses department

Recommendations and future use

To get an overall sense of satisfaction with Ask NHS we asked three simple questions about recommendations and future use. The results from all three questions showed strong evidence of a link with answers to the following earlier questions:

● Q9 - How easy was it to use the symptom checker?
● Q10 - Did you find the questions being read out by the virtual assistant helpful?
● Q11 - Thinking about the time it took to run through the symptom checker, did this seem…?
● Q12 - What happened as a result of using the symptom checker?
● Q13 - How happy were you with the outcome/decision of the symptom checker?
● The important results from our tests are show in Appendix 2 – Statistical Tests. Some of the more important findings are discussed below.

Recommending Ask NHS

Firstly, we asked if people had recommended Ask NHS to family or friends (Question 24). Just over half (55%) said "No".
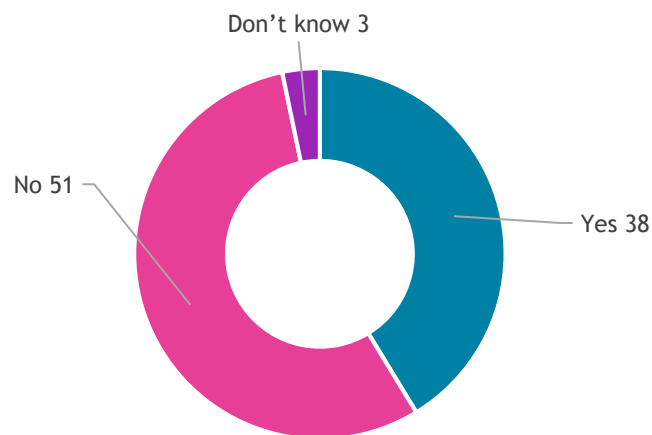
Don't know 3

No 51

Yes 38

We found very strong evidence of a link between **how happy users were with the outcome of the symptom checker** and whether they would recommend Ask NHS or not. People that were not happy with the outcome were less likely to recommend Ask NHS.

We **did not find** any evidence of a link with responses to **what happened as a result of using the symptom checker**. Therefore, the outcome of the symptom checker did not affect whether people would recommend Ask NHS.

Using Ask NHS again

Next, we asked if people had used, or would use, Ask NHS again. Most people (60%) said "Yes", although a number of people were notably unsure.

Don't know 16

No 21

Yes 56

We again found very strong evidence of a link between **how happy users were with the outcome of the symptom checker** and whether they would use, or had used, Ask NHS again.

Also, again, there is a strong link between future use and **how easy was it to use the symptom checker**.

For this question, we did find evidence of a link with responses to **what happened as a result of using the symptom checker**; the result of the symptom checker **did** affect whether people would use (or had used) Ask NHS again.

Using Ask NHS before calling a surgery

Finally, we asked if people would use Ask NHS before calling their surgery in future. Naturally, most people who answered "No" to the previous questions also answered "No" here.

Have you used/would you use Ask NHS again?	Would you use Ask NHS before calling the surgery in future?		
	Yes	No	Don't know
Yes	41	4	10
No		19	2
Don't know	1	8	6
Grand Total	42	31	18

Less than half of the responses were "Yes", most were "No" or "Don't know" (54%).

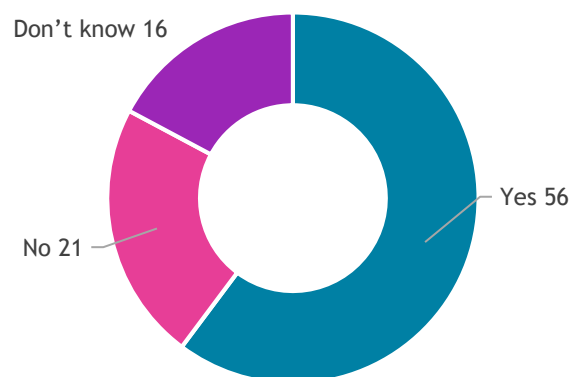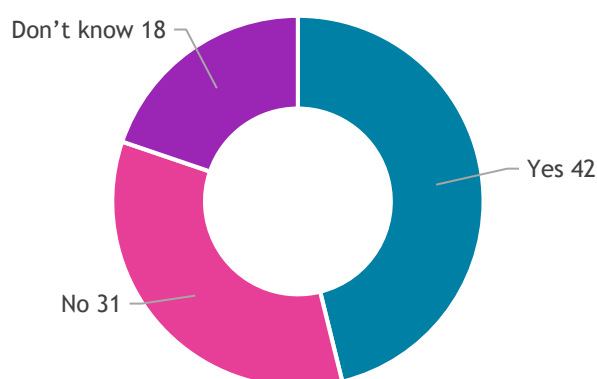Again, we found very strong evidence of a link between how **happy users were with the outcome of the symptom checker** and whether they would use Ask NHS before calling the surgery.

Note that unlike the previous two questions we **did not find** any evidence of a relationship with responses to **did you find the questions being read out by the virtual assistant helpful**.

Summary

The strongest evidence relates to how people **felt** about the outcome of using the symptom checker, rather than the outcome itself. However, how people feel about the outcome from the symptom checker is not easy to manage. The features of the symptom checker that the Ask NHS developers have control of are ease of use, the length of time it takes and the outcome recommended. These features were all linked to negative responses on future use and recommendation.

We know from our work that patients can be frustrated by the triage process in general practice. Not being able to see the same doctor or being able to choose who they can see are frequent issues. To help manage patient expectations it is important that communication about expected outcomes of the triage process, whether by phone of Ask NHS, is improved.

We believe that satisfaction with the outcomes from the Ask NHS symptom checker is likely to be based on similar expectations. If patients are not given the right information about the likely outcome of using Ask NHS their expectations may not be realistic. They are then likely not to use Ask NHS again or not recommend it to others.

We can see from the results in the table below that of the people who said "Yes", they would use Ask NHS again, all 38 would recommend it.

Have you used/would you use Ask NHS again?	Would you recommend Ask NHS?		
	Yes	No	Don't know
Yes	38		
No	15	21	15
Don't know	2		1

Other Comments

We gave everyone that had used the app in the last six months the chance to make further comments. We had a range of responses and questions, which we will share with the provider.

> Used it to book flu jab, very efficient but would be good to have some way of keeping a record of appointment on app

> Why can you not use this for children. The GP had a slot reserved for asking the app but unable to access it as you can't use it for children under 18.

> It is ridiculous that the GP surgery puts aside appointments which can only be accessed by Ask NHS when it is then impossible to put in the relevant symptoms and get to an appointment booking option.

> No option for me as a British Sign Language User.

Recommendations

We recommend that Buckinghamshire Clinical Commissioning Group and Sensely:

- Ensure that patients/users have a clear understanding of the triage system now in place in General Practice so that expectations about the outcomes of using Ask NHS are more realistic. This should cover expectations around likely outcomes and "over-cautious" referrals to 999

- Work closely with patients and clinicians to review the suitability of the Ask NHS symptom checker for people who want to report a range of symptoms or/and who have complex conditions

- Review the suitability of the Ask NHS app and desktop site for users of British Sign Language

- Consider allowing people to answer the symptom checker questions on behalf of someone for whom they care

- Consider a way for people to record their appointment when booking flu vaccinations
- Add clarity around **why** a certain outcome has been identified. For example, the reason for calling 999.

We recommend that Buckinghamshire Clinical Commissioning Group:

- Increase work around patient understanding and awareness of digital tools including Ask NHS, NHS App, NHS 111 Online.

We recommend that practices using Ask NHS:

- Inform patients that they have details of the symptoms they reported to Ask NHS, and the reasons why they may have to repeat some of them when speaking to a clinician.

Appendix 1 - Who did we hear from?

Age	Responses
18-25	2
26-35	12
36-45	15
46-55	14
56-65	25
66-75	19
76-85	3
Under 18	2

Gender	Responses
Male	26
Female	66
I'd prefer not to say	1

Ethnicity	Responses
Another ethnic background	1
Asian/Asian British: Chinese	1
Asian/Asian British: Indian	1
Black/Black British: African	1
I'd prefer not to say	2
White: Any other background	4
White: British/English/Northern Irish/Scottish/Welsh	82

Appendix 2 – Statistical Tests

Chi-squared test for independence - Q24vQ9

Null Hypothesis
There is no difference in recommendation by symptom checker ease of use.

Observed Frequencies

Recommended	Symptom Checker		Total
	Easy	Difficult	
Yes	27	1	28
No	26	14	40
Total	53	15	68

Expected Frequencies

Recommended	Symptom Checker		Total
	Easy	Difficult	
Yes	21.8235	6.1765	28
No	31.1765	8.8235	40
Total	53	15	68

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	9.4626	9.4626	9.4626
p-Value	0.0021	0.0021	0.0021
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q24vQ10

Null Hypothesis
There is no difference in recommendation by virtual assistant helpfulness.

Observed Frequencies

Recommended	Virtual Assistant helpful?		Total
	Yes	No	
Yes	20	5	25
No	15	20	35
Total	35	25	60

Expected Frequencies

Recommended	Virtual Assistant helpful?		Total
	Yes	No	
Yes	14.5833	10.4167	25
No	20.4167	14.5833	35
Total	35	25	60

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	8.2776	8.2776	8.2776
p-Value	0.0040	0.0040	0.0040
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q24vQ11

Null Hypothesis
There is no difference in recommendation by symptom checker length.

Observed Frequencies			
	Length of Symptom Checker		
Recommended	About Right	Bit/Too Long	Total
Yes	23	5	28
No	22	16	38
Total	45	21	66

Expected Frequencies			
	Length of Symptom Checker		
Recommended	About Right	Bit/Too Long	Total
Yes	19.0909	8.9091	28
No	25.9091	12.0909	38
Total	45	21	66

Parameters			
Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results			
Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	4.3693	4.3693	4.3693
p-Value	0.0366	0.0366	0.0366
	No significant difference	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q24vQ12

Null Hypothesis
There is no difference in recommendation by outcome

Observed Frequencies			
	Outcome		
Recommended	GP	Other	Total
Yes	11	17	28
No	13	26	39
Total	24	43	67

Expected Frequencies			
	Outcome		
Recommended	GP	Other	Total
Yes	10.0299	17.9701	28
No	13.9701	25.0299	39
Total	24	43	67

Parameters			
Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results			
Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	0.2512	0.2512	0.2512
p-Value	0.6162	0.6162	0.6162
	No significant difference	No significant difference	No significant difference

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q24vQ13

Null Hypothesis
There is no difference in recommendation by symptom checker satisfaction.

Observed Frequencies

Recommended	Symptom Checker Satisfaction		Total
	Happy/satisfied	Unhappy	Total
Yes	25	3	28
No	13	24	37
Total	38	27	65

Expected Frequencies

Recommended	Symptom Checker Satisfaction		Total
	Happy/satisfied	Unhappy	Total
Yes	16.3692	11.6308	28
No	21.6308	15.3692	37
Total	38	27	65

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Results			
Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	19.2456	19.2456	19.2456
p-Value	0.0000	0.0000	0.0000
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q25vQ9

Null Hypothesis

There is no difference in future use by symptom checker ease of use.

Observed Frequencies

Future use	Symptom Checker Ease		
	Easy	Difficult	Total
Yes	40	2	42
No	6	8	14
Total	46	10	56

Expected Frequencies

Future use	Symptom Checker Ease		
	Easy	Difficult	Total
Yes	34.5000	7.5000	42
No	11.5000	2.5000	14
Total	46	10	56

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	18.6551	18.6551	18.6551
p-Value	0.0000	0.0000	0.0000
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is violated.
Yates' Correction has been applied.

Chi-squared test for independence - Q25vQ10

Null Hypothesis
There is no difference in future use by virtual assistant helpfulness

Observed Frequencies

	Virtual Assistant helpful?		
Future use	Yes	No	Total
Yes	26	11	37
No	3	9	12
Total	29	20	49

Expected Frequencies

	Virtual Assistant helpful?		
Future use	Yes	No	Total
Yes	21.8980	15.1020	37
No	7.1020	4.8980	12
Total	29	20	49

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	7.6260	7.6260	7.6260
p-Value	0.0058	0.0058	0.0058
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is violated.
Yates' Correction has been applied.

Chi-squared test for independence - Q25vQ11

Null Hypothesis
There is no difference in future use by symptom checker length

Observed Frequencies

	Length of Symptom Checker		
Future use	About Right	Bit/Too Long	Total
Yes	33	7	40
No	6	7	13
Total	39	14	53

Expected Frequencies

	Length of Symptom Checker		
Future use	About Right	Bit/Too Long	Total
Yes	29.4340	10.5660	40
No	9.5660	3.4340	13
Total	39	14	53

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	6.3499	6.3499	6.3499
p-Value	0.0117	0.0117	0.0117
	No significant difference	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is violated.
Yates' Correction has been applied.

Chi-squared test for independence - Q25vQ12

Null Hypothesis

There is no difference in future use by outcome

Observed Frequencies

Future use	Outcome		Total
	GP	Other	
Yes	18	22	40
No	2	12	14
Total	20	34	54

Expected Frequencies

Future use	Outcome		Total
	GP	Other	
Yes	14.8148	25.1852	40
No	5.1852	8.8148	14
Total	20	34	54

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	4.1952	4.1952	4.1952
p-Value	0.0405	0.0405	0.0405
	No significant difference	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q25vQ13

Null Hypothesis
There is no difference in future use by symptom checker satisfaction.

Observed Frequencies

Symptom Checker Satisfaction	Future Use			Total
	Yes	Don't Know	No	
Happy	34	6	0	40
Unhappy	6	8	13	27
Total	40	14	13	67

Expected Frequencies

Symptom Checker Satisfaction	Future Use			Total
	Yes	Don't Know	No	
Happy	23.8806	8.3582	7.7612	40
Unhappy	16.1194	5.6418	5.2388	27
Total	40	14	13	67

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	3	3	3
Degrees of Freedom	2	2	2

Results

Critical Value	9.2103	5.9915	4.6052
Chi-Square Test Statistic	31.5512	31.5512	31.5512
p-Value	0.0000	0.0000	0.0000
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Expected Count Check	1	1	1
	1	1	1

Each observation is independent of all the others (i.e., one observation per subject)*

80% of expected counts should be 5 or greater in 2x3 table.

Expected frequency assumption   is met.

Chi-squared test for independence - Q26vQ9

Null Hypothesis
There is no difference in future usage before GP call by symptom checker ease of use.

Observed Frequencies

Symptom Checker Ease	Would consider before calling GP			Total
	Yes	Don't know	No	
Easy	32	10	12	54
Diffcult	2	2	11	15
Total	34	12	23	69

Expected Frequencies

Symptom Checker Ease	Would consider before calling GP			Total
	Yes	Don't know	No	
Easy	26.6087	9.3913	18.0000	54
Diffcult	7.3913	2.6087	5.0000	15
Total	34	12	23	69

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	3	3	3
Degrees of Freedom	2	2	2

Results

Critical Value	9.2103	5.9915	4.6052
Chi-Square Test Statistic	14.4063	14.4063	14.4063
p-Value	0.0007	0.0007	0.0007
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Expected Count Check	1	1	1
	1	0	1

Each observation is independent of all the others (i.e., one observation per subject)*

80% of expected counts should be 5 or greater in 2x3 table.

Expected frequency assumption   is met.

Chi-squared test for independence - Q26vQ10

Null Hypothesis
There is no difference in future usage before GP call by virtual assistant helpfulness

Observed Frequencies

	Would consider before calling GP			
Virtual Assistant helpful?	Yes	Don't know	No	Total
Yes	22	6	8	36
No	11	3	10	24
Total	33	9	18	60

Expected Frequencies

	Would consider before calling GP			
Virtual Assistant helpful?	Yes	Don't know	No	Total
Yes	19.8000	5.4000	10.8000	36
No	13.2000	3.6000	7.2000	24
Total	33	9	18	60

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	3	3	3
Degrees of Freedom	2	2	2

Results

Critical Value	9.2103	5.9915	4.6052
Chi-Square Test Statistic	2.5926	2.5926	2.5926
p-Value	0.2735	0.2735	0.2735
	No significant difference	No significant difference	No significant difference

Assumptions

Expected Count Check	1	1	1
	1	0	1

Each observation is independent of all the others (i.e., one observation per subject)*

80% of expected counts should be 5 or greater in 2x3 table.

Expected frequency assumption   is met.

Chi-squared test for independence - Q26vQ11

Null Hypothesis
There is no difference in future usage before GP call by symptom checker length.

Observed Frequencies

Would consider before calling GP	Length of Symptom Checker		Total
	About Right	Bit/Too Long	
Yes	27	6	33
No	11	11	22
Total	38	17	55

Expected Frequencies

Would consider before calling GP	Length of Symptom Checker		Total
	About Right	Bit/Too Long	
Yes	22.8000	10.2000	33
No	15.2000	6.8000	22
Total	38	17	55

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	2	2	2
Degrees of Freedom	1	1	1

Results

Critical Value	6.6349	3.8415	2.7055
Chi-Square Test Statistic	6.2577	6.2577	6.2577
p-Value	0.0124	0.0124	0.0124
	No significant difference	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Each observation is independent of all the others (i.e., one observation per subject)*

All expected counts should be 5 or greater in 2x2 table.
Expected frequency assumption   is met.

Chi-squared test for independence - Q26vQ12

Null Hypothesis
There is no difference in future usage before GP call by outcome.

Observed Frequencies

Outcome	Would consider before calling GP			Total
	Yes	Don't know	No	
GP	14	6	3	23
Other	19	5	20	44
Total	33	11	23	67

Expected Frequencies

Outcome	Would consider before calling GP			Total
	Yes	Don't know	No	
GP	11.3284	3.7761	7.8955	23
Other	21.6716	7.2239	15.1045	44
Total	33	11	23	67

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	3	3	3
Degrees of Freedom	2	2	2

Results

Critical Value	9.2103	5.9915	4.6052
Chi-Square Test Statistic	7.5759	7.5759	7.5759
p-Value	0.0226	0.0226	0.0226
	No significant difference	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Expected Count Check	1	0	1
	1	1	1

Each observation is independent of all the others (i.e., one observation per subject)*

80% of expected counts should be 5 or greater in 2x3 table.

Expected frequency assumption   is met.

Chi-squared test for independence - Q26vQ13

Null Hypothesis

There is no difference in future usage before GP call by symptom checker satisfaction.

Observed Frequencies

Symptom Checker Satisfaction	Would consider before calling GP			
	Yes	Don't Know	No	Total
Happy	26	7	5	38
Unhappy	7	4	16	27
Total	33	11	21	65

Expected Frequencies

Symptom Checker Satisfaction	Would consider before calling GP			
	Yes	Don't Know	No	Total
Happy	19.2923	6.4308	12.2769	38
Unhappy	13.7077	4.5692	8.7231	27
Total	33	11	21	65

Parameters

Level of Significance	0.01	0.05	0.1
Number of Rows	2	2	2
Number of Columns	3	3	3
Degrees of Freedom	2	2	2

Results

Critical Value	9.2103	5.9915	4.6052
Chi-Square Test Statistic	16.1196	16.1196	16.1196
p-Value	0.0003	0.0003	0.0003
	Significant difference at 1% level	Significant difference at 5% level	Significant difference at 10% level

Assumptions

Expected Count Check	1	1	1
	1	0	1

Each observation is independent of all the others (i.e., one observation per subject)*

80% of expected counts should be 5 or greater in 2x3 table.

Expected frequency assumption   is met.

If you require this report in an alternative format, please contact us.

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