Use of UK faith centre as a COVID -19 community vaccination clinic: exploring a potential model for community-based health care delivery

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CONTRIBUTOR STATEMENT

AA was the principal investigator of the study. DW, FM and AD designed the questionnaire, AA, AZ and SS conceptualised the study and AA collected the data, CH and HW recorded the data onto the analysis framework and HW carried out the analysis. HW and DW wrote the first draft of the manuscript. All authors contributed to the writing and revision of the manuscript.

STATEMENTS AND DECLAREATIONS

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DATA SHARING STATEMENT

Data are available upon reasonable request. Data are available on request from helena.wehling@ukhsa.gov.uk.

ETHICS APPROVAL STATEMENT

As this research classifies as a service evaluation it was deemed exempt from requiring ethical approval.

ABSTRACT

Introduction: Effective, safe vaccines against COVID-19 are essential to achieve global control of the coronavirus (SARS-CoV-2). Using faith centres may offer a promising route for promoting higher vaccine uptake from certain minority ethnic groups known to be more likely to be vaccine hesitant

Methods: This cross-sectional study explored attendees' perceptions, experiences of being offered and receiving COVID-19 vaccination in a local mosque in Woking, Surrey, UK. 199 attendees completed a brief questionnaire on experiences, views, motivations about attending the mosque and vaccination on site.

Results: The most common ethnic groups reported were White British (39.2 %) and Pakistani (22.6%). 36.2% identified as Christian, 23.6% as Muslim, 5.5% as Hindu and 17.1 % had no religion. Genders distribution was relatively equal with 90 men (45.2%)) and 98 women (49.2%), and 35 - 44-year-olds represented the most common age group (28.1%). Views and experiences around receiving vaccinations at the mosque were predominantly positive. Primary reasons for getting vaccinated at the mosque included convenience, accessibility, positive aspects of the venue's inter-cultural relations, and intentions to protect oneself against COVID-19, regardless of venue type. Negative views and experiences in regards to receiving the vaccination at the mosque were less common (7% expressed no intention of recommending the centre to others), and disliked aspects mostly referred to the travel distance and long waiting times.

Conclusions: Offering COVID-19 vaccination in faith centres appears acceptable for different faith groups, ensuring convenient access for communities from all religions and ethnic backgrounds.

Summary Box

What is already known on this topic –

- Effective, safe vaccines against COVID-19 are essential to achieve global control of the coronavirus
- Using faith centres for providing access to health services may offer a promising route for promoting higher vaccine uptake from certain minority ethnic groups known to be more likely to be vaccine hesitant.

What this study adds –

- Convenience, accessibility, positive aspects of the venue, the importance of promoting inter-cultural relations and getting vaccinated to protect oneself against COVID-19 appear to be major influencers relevant for the specific type of venue where the vaccine was offered, i.e., a mosque.
- Long travel distance and waiting times were barriers to recommending the centre to others.

How this study might affect research, practice or policy –

- Offering COVID-19 vaccination in faith centres appears acceptable for different faith groups.
- Vaccine uptake can be maximised by ensuring convenient access to the centre for communities from all religions and ethnic backgrounds.
- Future research should continue to explore COVID-19 vaccination behaviours and underlying beliefs in larger ethnic minority samples.
- Faith centres could provide an alternative location for preventative healthcare offers, such as vaccines, in local communities, therefore representing a promising approach to maximise public health impacts.

Introduction

Effective and safe vaccines against COVID-19 are essential to achieve global control of the coronavirus (SARS-CoV-2). Progress of the rolled-out COVID-19 national vaccination programme meant the UK had one of the highest vaccination rates globally [1,2]. However, uptake of vaccination was not universally high due to vaccine hesitancy, defined as a delay in acceptance or refusal of vaccines despite the availability of vaccine services [3]. Vaccine hesitancy presents a complex issue, varying across time, location and vaccine type, and is known to be influenced by factors such as refusal, inconvenience and low confidence in vaccines [3]. The context-specific nature of vaccine uptake therefore highlights the importance of identifying groups less likely to vaccinate. and monitoring the impact of vaccination policies on uptake behaviour.

Research suggests COVID-19 vaccine hesitancy is higher among minority ethnic groups compared to those from a white ethnic background in the UK [4-7]. This trend is particularly concerning given the disproportionate impact of COVID-19 on some ethnic minorities; indeed, COVD-19 related deaths were two to four times higher among people from ethnic minorities compared to the White majority population [8]. While reasons for this elevated mortality are complex, health disparities during the COVID-19 pandemic have been linked to differential exposure to the virus. For instance, ethnic minority groups in the UK are more likely to work in specific occupations with high contact with potentially infected persons (e.g., health and social care workers), and are more likely to live in overcrowded housing [9]. Lower vaccine uptake in ethnic minorities is not restricted to COVID-19 vaccination alone, and instead reflects a historical trend of lower vaccine uptake in areas with a higher proportion of ethnic minority groups in England, for example influenza and pneumococcal vaccines [4, 10,11,12]. Low uptake of non-COVID-19 vaccines in ethnic minority groups in Western country has been linked to limited access to healthcare services in ethnic minorities contributes, which can be caused by lack of awareness about available services or low language proficiency [13].Previous research highlights the importance of building trust in addressing vaccine hesitancy [14], which suggests that offering COVID-19 vaccines in familiar and trusted locations and facilities could contribute to increased vaccine uptake [15]. Using vaccination centres in community settings, such as places of worships (e.g., churches, mosques, temples) may offer a promising approach to increase vaccination among minority groups as well as the general public. Indeed, drawing upon community-based faith institutions to support emergency response and to improve community health is not a new concept: in the past mosques have been used to support evacuation in response to disasters, such as earthquakes, and for health promotion in faith communities. More

specifically in this context, mosques could provide an acceptable and trusted option for providing access to health services in ethnic minority groups, thereby helping to address existing health inequalities that have been linked to poor access to health services [16,17,18]. However, more data is needed to help us better understand the potential utility of mosques or faith centres as suitable vaccine centres to support a mass vaccine roll-out in local communities and might be a useful expansion of the NHS.

As part of the COVID-19 pandemic response, and in alignment with the commitment to delivering the NHS National COVID-19 vaccination programme and tackling inequalities and vaccine confidence in areas with lower uptake (for example, as described by the Surrey Heartlands Narrative [19]), a vaccination centre was established in a local mosque in Woking, Surrey, UK. The centre was one of the first faith base hubs in the UK, and was set up following consultation with primary and secondary care colleagues, local borough council, local clinical commissioning groups and local community leaders including imams from all four local mosques. The centre was open to any member of the community irrespective of religious, cultural or ethnic background. The present research describes the first UK study aimed to understand people's experiences and views of attending a faith centre (in this case, a mosque) for vaccination and their motivations for getting vaccinated, thus harnessing a person-centred approach through meaningful engagement with local residents [20].

Methods

The pop-up vaccination clinics were set up with two vaccinators in the Shah Jahan Mosque in Woking, Surrey. Volunteers (n = 4-6) were provided by the mosque staff to direct clinic visitors to the vaccine stations whilst maintaining social distancing.

Sample

Individuals who visited the vaccination clinic to receive their COVID-19 vaccination during four consecutive Sundays between April and May 2021 were approached by the study coordinator, a male NHS consultant of South Asian Heritage. The consultant asked the visitors if they would like to complete a brief written questionnaire immediately after the vaccination. Written consent was obtained by participants from the study coordinator prior to completing the questionnaire.

Public and Patient Involvement (Supplementary A)

Measures

Visitors who agreed to participate in the study completed a questionnaire which included free text questions to elicit individuals' reasons for choosing the mosque as a vaccination centre. Additionally, participants were asked to describe their experiences of attending the mosque to receive their COVID-19 vaccine, including what they liked and what could be improved, and whether they would recommend the vaccination centre to family or friends. Participants were also asked to provide reasons for getting vaccinated from a list of 40 options, which was synthesised from common barriers and facilitators to vaccination identified in the extant literature by the authors of this study, and further reasons were added based on the specific context of this study [7,21]. The reason for choosing to present the response format as tick boxes was based on research suggesting a Western cultural bias regarding Likert Scales, particularly amongst Western cultural groups [22,23]. Demographic variables were assessed using categorical questions, either based on or adapted from the Office for National Statistics' Census questions [24]. These include age group, sex, religion, ethnicity, whether attendees were bornn the UK and whether they had been identified as being at high risk of coronavirus [7]. The full questionnaire is presented in Supplementary B.

Data analysis

All data were collated and entered into a spreadsheet. Categorical responses were analysed descriptively in terms of their total and relative frequency to identify emerging patterns and trends across the data. Statistical analysis was not performed due to the small sample size which limited comparability between different response categories, and so analysis of the closed-response data is strictly descriptive. Free text data were analysed using Content Analysis [25] by reading through individual responses, identifying the presence of related words and concepts, and then using these to generate themes which were used to code responses.

Results

Participant characteristics

Data were collected from a total of 199 individuals. Out of all 238 clinic visitors on the days when data was collected, 37 did not consent to participate in the study; and two forms were discarded due to incomplete data. In total, 98 women (49.2%) and 90 men (45.2%) participated in the survey (10 did not provide a response and one individual preferred not to specify their sex). The most common age group present in the sample was 35 – 44 years (*n*= 56; 28.1%), the largest group was White British; *n*= 78; 39.2%), and Christian (*n*= 72; 36.2%). . Just over half of the respondents disclosed that they were born in the UK (*n*= 101; 50.75%), and 39 (19.6%) stated they had been told they were at high risk of coronavirus by

their GP, the NHS or the Chief Medical officer. Furthermore, 26 respondents (13.1%) reported attending the mosque regularly, and in cases where additional reasons for attendance were provided, these included participation in prayers (*n*= 18) and/or other events (celebrations, services and talks (*n*= 3)), as well as for work or volunteering purposes (*n*= 2). More details relating to the above findings can be found in Table 1 & 2.

Respondents' views of attending the mosque to receive the COVID-19 vaccine

Firstly, participants were asked to provide free text to the following question: "Why did you choose to come to this centre for your vaccination?" Most people (*n*= 158; 79.4%) specified one reason, 39 respondents provided more than one reason, and two individuals did not provide any response to this question. 156 participants (78.4%) provided reasons that related to their perceived convenience of attending the centre to receive their vaccination. These included proximity of the mosque to their home (*n*= 103), easy travel to the site (*n*= 9) access to parking (*n*= 10), appointment availability on their preferred date (*n*= 32), as well as availability of their preferred vaccine (*n*= 2). Other respondents (*n*= 31; 15.6%) indicated that no alternative venue was offered to them, either because they were referred to this centre by their GP, or this centre was the only option provided when they booked their appointment on the NHS online portal. Twenty-four respondents (12.1%) provided different reasons for choosing the mosque: In many cases the centre being a mosque influenced people's decision to get vaccinated at this site, with specific reasons including religious affiliation (*n*= 9), as well as the positive atmosphere (*n*= 7). One respondent was recommended this centre by a friend, and three respondents were interested in seeing the mosque for the first time.

A total of 39 individuals (19.6%) answered "Yes" to a question which asked, "Did you choose this vaccination centre because it was in the Mosque?", thus suggesting that familiarity or affiliation with the mosque was a key factor for some respondents. An additional question asked participants whether they would have preferred to be vaccinated at a different location, to which a small proportion (*n*= 26; 13.1%) replied with 'yes'. Where further details about alternative locations were provided these BAME communities as past research has highlighted limited challenges in relation to their use for non-included a different centre or location (*n*= 12), a centre in closer vicinity (*n*= 8), a hospital or GP surgery (*n*= 2), a church (*n*= 1) and a non-religious place (*n*= 1).

When asked how they felt about there being a vaccination centre in the mosque, nearly half of the respondents (*n*= 91; 45.7%) expressed positive views, stating they felt "happy", "thankful" and "comfortable" about receiving their COVID-19 vaccine

in the mosque. Others felt using the mosque created opportunities for improving vaccination uptake in the Muslim community, and for the Muslim community to support the local population during the pandemic. Other respondents (*n*= 71; 35.7%) expressed neutral views about using the mosque as a vaccination centre, either because they did not have a particular opinion, or they believed that receiving the vaccine itself was more important than the location of the vaccination. Five participants (2.51%) shared negative or mixed feelings about receiving their vaccination in the mosque, with one person describing the experience as "strange and uncomfortable", while another individual was concerned that offering vaccines in the mosque would take away space, thus preventing people from praying. A full list of the above themes with illustrative quotes are provided in Table 2

Respondents' experiences of getting vaccinated at the mosque

The majority of participants (*n*= 152; 76.4%) described their experience of receiving the vaccine as either very pleasant or pleasant, and only one participant found the experience "very unpleasant" (see Table 1). In response to the question "Would you recommend your family and/ or friends come to this vaccine centre to get their COVID-19 vaccine?", nearly all respondents (*n*= 180; 90.5%) responded 'yes'. Reasons respondents provided referred to the convenience of the location, for example availability of parking or proximity (*n*= 56), friendly staff (*n*= 48), the centre being managed well (*n*= 36), and staff following COVID-19 safety guidelines (*n*= 5). Others (*n*= 9) highlighted positive aspects of the venue itself, two respondents felt the centre contributed to positive inter-cultural relations, and for three respondents the vaccination provided an opportunity to view the mosque. Multiple attendees (*n*= 21) stated they had no particular reason for recommending the centre, which included a few respondents who deemed the centre to be irrelevant for receiving a vaccine. On the other hand, 14 respondents (7.0%) indicated no intentions to recommend the centre to others, with reasons including travel distance (*n*= 4) , long waiting times (*n*= 1), and two individuals thought the centre was poorly managed. The described themes with illustrative quotes are provided in Table 1 & 2.

Reasons for getting vaccinated

In response to the question "Why did you decide to get vaccinated?", the most common reasons people provided related to their motivation to protect themselves against coronavirus (*n*= 185 (92.9%)),and wanting to get back to normal (*n*= 159 (79.9%)). Furthermore, accessibility to the centre was important for many respondents (i.e., 'The vaccination centre was easy for me to get to' (*n* = 151; 75.9%), and for the majority (*n*= 148; 74.4%) the fact that people who were important to them had been vaccinated was provided as a reason for their decision. The full results are provided in Table 3.

Discussion

The current study sought to understand people's experiences and views of attending a mosque to receive their COVID-19 vaccination and their motivations for getting vaccinated. One of the assumptions of the programme at roll out was that offering the COVID-19 vaccination in a faith centre would enable increased uptake from certain faith communities that regularly use the centre. While our results indicate that individuals who identified as Muslim were overrepresented in the sample at nearly a quarter, compared to the local population (7.4% [26] (see Table 4) vs. 23.6% in the present sample), the most commonly represented groups of participants with just over a third of respondents each were those who identified as White British and those who identified as Christian (with likely substantial overlap between the two). This finding suggests that the centre being a religious institution appeared to be no hindrance to attendance by members of the wider community outside the Muslim faith group and that the vaccination clinic may have had a broader appeal than to just regular users of the moque (see a breakdown of participants (Table 1) and by Woking faith group (Table 4). With approximately half of respondents being women, access and uptake of the service across genders appears to have been well-balanced. However, it should be noted that the questionnaire was not distributed at the first five clinic sessions, so the demographics and responses of these early attendees were not available to us.

An examination of the provided reasons underlying the decision to vaccinate at this clinic supports this conclusion: although the centre being a mosque appeared to be an attractive option for some visitors (nearly a fifth chose this centre because it was a mosque), faith considerations were not the primary factor in explaining this decision. Indeed, religious affiliation was only identified as a reason for choosing the centre by a small proportion (5%). The comparatively higher number of people choosing the centre because it was a mosque could possibly be explained by several respondents' positive views about the mosque or using the vaccination as an opportunity to view the mosque, as stated in several comments. Instead, our findings reveal that convenience, mostly in relation to the proximity of the facility to home, appears to be the most important factor in people's decision for choosing a vaccine centre when booking their appointment (this reason was provided by over three quarters of the sample) (78%). This is consistent with other work concerning the role of convenience and familiarity in COVID-19 vaccination behaviour [15], and behavioural science theory indicating that an individual's capability and opportunity to engage in a behaviour (such as that afforded by an accessible, local facility) is a significant factor in the decision to undertake said behaviour [27]. However, it should also be noted that participants in our study were not always given the choice about the vaccination site at the time of their booking.

When asked why they decided to get vaccinated, our data suggest that people's vaccination uptake is often driven by protection motivation (for themselves and others), hoping to return to normal, accessibility of the centre, vaccine safety, and social norms (i.e., family and friends having received their vaccine or planning to get vaccinated). These findings are broadly consistent with a range of existing literature concerning vaccination intentions and uptake, both COVID-19 and non-COVID-19 [4,21,23,28,29].

Considered together, our findings echo previous research indicating that faith facilities can provide support to local communities in response to emergencies and during non-emergencies, such as influencing health promoting and engagement [16,17,30]. Future research should continue to explore COVID-19 vaccination behaviours and underlying beliefs in larger ethnic minority samples.

Limitations and Future Research (Supplementary A)

Conclusion

The current study sought to explore perceptions and experiences of being offered and receiving COVID-19 vaccination in a local faith-based vaccination centre. 199 visitors who received their COVID-19 vaccination in the mosque completed questionnaires with an emphasis on understanding attitudes towards the centre, reasons for choosing the centre, and other factors underlying people's decision to be vaccinated. Responses highlight that perceived convenience and accessibility were key considerations for their decision to receive COVID-19 vaccinations in the clinic. Furthermore, the general high acceptance of receiving the vaccine at a mosque and positive experiences described by respondents, regardless of their faith and ethnic background, reinforce the potential for employing community engagement and participation to support the response to a national emergency in the form of rapid roll-out of a mass vaccination programme.

Taken together, our findings suggest that faith could provide an alternative culture- and faith-friendly location for preventative healthcare offers, such as vaccines, in local communities.

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Table 1. *Quantitative survey responses sample characteristics (N= 199)*

Questionnaire item	Response category	*n*	*%**
Age	25 – 34	11	5.53
	35 – 44	56	28.14
	45 – 54	40	20.10
	55 – 64	41	20.60
	65 – 74	13	6.53
	75 – 84	11	5.53
	85+	1	0.50
	No response	26	13.07
Sex	Male	90	45.23
	Female	98	49.24
	Prefer not to say	1	0.50
	No response	10	5.03
Ethnicity	White British (English/Welsh/Scottish/Northern Irish/British)	78	39.20
	Any other white background	17	8.54
	Asian (Pakistani)	45	22.61
	Asian (Indian)	15	7.54
	Asian (Bangladeshi)	4	2.01
	Any other Asian background	8	4.02
	Black/African/Caribbean/Black British	2	1.00
	Mixed/Multiple Ethnic Groups	6	3.02
	Other Ethnic Group	7	3.52
	No response	17	8.54
Faith group	Christian	72	36.18
	Muslim	47	23.62
	Hindu	11	5.53
	Sikh	5	2.51
	Buddhist	2	1.00
	Jewish	1	0.5
	Kirat	1	0.5
	No religion	34	17.09
	Prefer not to say	3	1.51
	No response	23	11.56
Were you born in the UK?	Yes	101	50.75
	No	81	40.70
	No response	17	8.54
Have you been told by your GP, the NHS or the	Yes	39	19.60

Chief Medical Officer that you are at high risk of coronavirus?	No	131	65.83
	Not sure	12	6.03
	No response	17	8.54
Did you choose this vaccination centre because it was a mosque?	Yes	39	19.60
	No	160	80.40
Would you have preferred to be vaccinated in a different location?	Yes	26	13.06
	No	173	86.93
Would you recommend to your family and/or friends come to this vaccine centre to get their COVID-19 vaccine?	Yes	180	90.45
	No	14	7.03
	No response	5	2.51
Do you regularly attend the mosque?	Yes	26	13.07
	No	154	77.39
	No response	19	9.55
How was your experience of getting vaccinated?	Very pleasant	102	51.26
	Pleasant	50	25.13
	Neither pleasant nor unpleasant	29	14.57
	Unpleasant	0	0
	Very unpleasant	1	0.50
	No response	17	8.54

*Percentages have been rounded to two decimal places.

Table 2. *Coded responses from free text comments with illustrative example quotes (Multiple responses were possible, and percentages provided are in relation to the total sample of N= 199).*

Question	Themes	Response frequency	Illustrative quotes
Why did you choose to come to this centre for your vaccination?	Convenience	n= 156 (78.4%)	
	<u>*Specific reasons:*</u>		
	-Proximity to home	n= 103	*"It's close to my house and the parking is good."*
	-Easy travel to site	n= 9	
	-Access to parking	n=10	
	-Appointment availability	n= 32	*"The time and the say suited me."*
	-Availability of preferred vaccine	n= 2	
	Religious affiliation	n= 9 (4.52%)	*"I am Muslim."*
	Positive atmosphere	n= 7 (3.52%)	*"I know it is a supportive and friendly environment."*
	Opportunity to view the mosque	n= 3 (1.51%)	*"I was interested to finally see the oldest Mosque in England!"*
	No alternative venue offered	n= 31 (15.58%)	*"(My) doctor gave this site. No choice closer than NHS options on website."*
	Recommendation by others	n= 1 (0.5%)	*"(A) friend recommended it."*
Where would you have preferred to be vaccinated?	Alternative centre	n= 12 (6.03%)	-
	Centre in closer vicinity	n= 8 (4.02%)	-
	Hospital or GP surgery	n= 2 (1.00%)	-
	Church	n= 1 (1.00%)	-
	Non-religious place	n= 1 (1.00%)	-
How do you feel about there being a vaccination centre in the mosque?	Positive views	n= 91 (45.7%)	*"Fantastic - religious spaces should be centres for community work, (I) feel comfortable in the mosque."*
	Neutral views	n= 71; (35.7%)	*"(It) shouldn't matter where vaccination centres are."*
	Negative/ mixed views	n= 5 (2.51%)	*"(I have) mixed feelings- maybe prevents people having access to space to pray."*
If you answered YES to the question "Would you recommend to your family and/or friends come to this centre to	Convenience of the location	n= 56 (28.14%)	*"Only for convenience and to speed up the waiting time. (The) hall used appeared basic at best."*
	Good management of the centre	n= 36 (18.09%)	*"It took two minutes & it is super organised."*

get their COVID-19 vaccine?" : Reason	Friendly staff	n= 48 (24.12%)	*"People were very helpful and friendly."*
	COVID-19 safety guidelines were followed	n= 15 (7.54%)	*"(I would recommend this centre) because it's well organised, clean and socially distanced."*
	Positive aspects of the venue	n= 9 (4.52%)	*"Clean, spacious , safe"*
	To promote the mosque's positive contribution to community health	n= 2 (1.00%)	*"(It is) good to show support when mosque is being used for positive community work e.g. vaccinations."*
	Opportunity to view the Mosque	n= 3 (1.51%)	*"I got to come and see the mosque, which I probably never would have otherwise."*
	No particular reason/ Irrelevance of the centre for vaccination purposes	n= 21 (10.55%)	*"It's a vaccination drive due to the global pandemic - locations do not matter."*
If you answered NO to the question "Would you recommend to your family and/or friends come to this centre to get their COVID-19 vaccine?" : Reason	Poor management of the centre	n= 2 (1.00%)	*"(It was) slow, unorganised. No waiting system."*
	Distance to the location	n= 4 (2.01%)	*"Not close enough"*
	Long waiting times	n= 1 (0.50%)	*"Very slow compared to where I had my 1st vaccination"*
What was good about your vaccination experience today?	Friendly staff	n= 42 (21.11%)	*"The volunteers, nurses doctors were all so lovely and reassuring."*
	Good organisation / Efficiency	n= 41 (20.60%)	*"(The) good organisation and friendly staff inside the hall, good signposting outside."*
	Positive aspects of the venue	n= 5 (2.51%)	*"(The venue was an) open, wide area - and good cleaning."*
	COVID-19 safety guidelines were followed	n= 5 (2.51%)	*"Good spacing, it felt safe."*
	Receiving the vaccination	n= 5 (2.51%)	*"Just being vaccinated"*
	Vicinity to the location	n= 2 (1.00%)	*"Quite local"*
	No particular aspect/ Everything	n= 12 (6.03%)	*"The whole experience was good. Very pleased"*
	Negative experience	n= 3 (1.51%)	*"It wasn't very busy but was slow- no real number system - unsure of when it's your turn!"*
How do you think the vaccination experience could be improved?	Information provision	n= 6 (3.02%)	*"(Provide) more (information) as you enter the premises."*

	Waiting time	n= 17 (8.54%)	*"At least go by appointment slots or check text message that people have appointments in place. I wasted a lot of time."*
	Improvement of facilities	n= 7 (3.52%)	*"Heating in the hall - it was quite cold."*
Please can you tell us about the activities that you regularly attend at the mosque?	Work and volunteering purposes	n= 2 (1.00%)	*"I come for interfaith meetings. I'm part of Working league of faith and we do a lot of work together."*
	Participation in prayers/ events	n= 21 (10.55%)	*"Friday prayers and EID prayers, talks by Sheiks"*

Table 3. *Reasons for getting vaccinated including response numbers for each listed reason and percentage (Multiple responses from individual participants were possible, and percentages provided for each reason are in relation to the total sample of N= 199).*

Reason for getting vaccinated against COVID-19	**N****	**%**
Protecting myself against coronavirus		
To protect me against coronavirus	185	92.96
I would regret it if I didn't have the vaccine and then got coronavirus	78	39.20
Protecting others against coronavirus		
To reduce the spread of coronavirus	134	67.34
The vaccine won't work unless most people in the UK take it	82	41.20
To protect other people from catching coronavirus	100	50.25
Vaccine safety		
I believe the vaccine is safe	145	72.86
Risk of coronavirus		
I am a key worker	35	17.59
I work with individuals in high-risk groups	19	9.55
I am a member of a high-risk group	38	19.10
To allow me to see people who are important to me		
To allow me to get back to normal as soon as possible	159	79.90
To allow me to go out of my home safely again	102	51.26
To reduce the disruption to my children's education	60	30.15
To allow me to get the help or care I need at home	31	15.58
Behaviour/ intentions of people who are important to me		
People who are important to me (e.g., my friends, family, and community) have been vaccinated	148	74.37
People who are important to me (e.g., friends, family, community) are planning to get vaccinated	110	55.28
Recommended by people who are important to me		
People who are important to me (e.g., friends, family, community) wanted me to get vaccinated	101	50.75
It was recommended to me by someone who is important to me (e.g., friend, family, community)	47	23.62
It was recommended to me by the government	61	30.65
It was recommended to me by a healthcare professional (e.g., your Doctor or the NHS)	58	29.15
Practical factors		
The location is familiar to me	71	35.68
The vaccination centre was easy for me to get to	151	75.88
I come to this building regularly for other reasons	35	17.59
I could access the centre via public transport	9	4.52
I could get an appointment at a convenient time	96	48.24
Other	2	1.00

Table 4. *Breakdown of faith group in Woking and Surrey (ONS Census 2011).*

Note. Adapted from https://www.woking.gov.uk/sites/default/files/documents/DataTransparency/demographicprofile.pdf. Copyright 2013.

Appendix A: Supplementary text

Public and Patient Involvement

Prior to the data collection the research team actively consulted with four local mosque imams and community leaders, including primary care staff, to gain joint agreement of the mosque as vaccination centre. This also helped to ensure the dissemination of the brief questionnaire was convenient for clinic visitors and did not impact on the experience or the duration of their vaccine appointment. Similarly, it was discussed how best to engage with the volunteers to gain support for their help in the regular weekend clinics without disrupting their work.

Respondents' experiences at the vaccine centre

With regard to the question "How do you think the vaccination experience could be improved?", multiple respondents (*n*= 17) commented that the waiting time could be sped up, for example by increasing staff numbers, setting up more vaccine stations, implementing checks upon arrival to ensure appointment slots were on schedule/ appropriately used, and using a number system to call out people. Some suggested that more information could be provided (*n*= 6), such as improved signposting of the centre and providing more information about the procedure prior to the appointment. Finally, seven respondents suggested improvements of the facilities and set up of the clinic, for example ensuring the premises are clean and tidy, providing an indoor seating area, adjusting the temperature and ensuring sufficient privacy was provided during the vaccine administration. The above themes are listed in Table 2 (Appendix B) with illustrative quotes.

Reasons for getting vaccinated

In response to the question "Why did you decide to get vaccinated?", all 199 participants provided multiple reasons for getting vaccinated from the 24 options presented. The most common reasons people provided related to their motivation to protect themselves against coronavirus (*n*= 185 (92.9%)), and people's motivation to get back to normal (*n*= 159 (79.9%)).

Furthermore, for a large proportion, accessibility to the centre was important (i.e., "The vaccination centre was easy for me to get to" (*n* = 151; 75.9%), and three quarters (*n*= 148; 74.4%) specified getting their vaccination because people who were important to them had been vaccinated. Other frequently reported reasons included believing the vaccine was safe (*n*= 145; 72.9%), to reduce the spread of coronavirus (*n*= 134; 67.3%), family members' or friends' intentions to get vaccinated (*n*= 110; 55.3%), and significant others wanting respondents to get

vaccinated (*n*= 101; 50.8%); several others also wanted to leave their home again safely (*n*= 102; 51.3%) and to protect others from catching coronavirus (*n* = 100; 50.3%).

On the other hand, being a member of a high-risk group (*n*= 38; 19.1%) or a key worker (*n*= 35; 17.6%), regular attendance at the mosque for other reasons (*n*= 35; 17.6%), enabling access to care/ help at home (*n*= 31; 15.6%), working with individuals in high-risk groups (*n*= 19; 9.5%), and easy access to the mosque via public transport (*n*= 9; 4.5%) were less common reasons people provided for getting vaccinated. One person provided two reasons that were not included in the list: "I always enjoy visiting Shah Jahan" and "I look forward to travelling internationally again". The full list of prompted reasons for getting vaccinated from the questionnaire, including response numbers, is provided in Appendix B (Table 3).

Limitations and Future Research

There are some limitations that should be noted when interpreting the findings of this research. Firstly, the relatively small sample size (*n*= 199) limits the generalisability of the findings and removes the possibility of conducting more complex analyses to understand the patterning of responses based on respondents' characteristics, such as demographic features, with confidence. However, the majority of attendees who visited the vaccination clinics during the four weekends sampled completed the survey and so our findings are representative of those individuals who were vaccinated in the mosque during the evaluation period. Furthermore, this study offers limited understanding in regard to vaccine hesitancy, as we only surveyed individuals who attended the vaccination centre, and not the wider community in the vicinity of the centre. Therefore, it is likely that those that responded were not vaccine hesitant, and so our ability to draw inferences about whether the centre did anything to address hesitancy, or whether vaccine uptake increased in the area as a result of establishing the centre, is not possible.

Given the limitations associated with the nature and size of the sample but bearing in mind the substantially positive nature of our findings, we recommend that future research should continue to test the uptake and acceptability of utilising religious facilities as vaccine centres. Ideally, although not possible during the current study given the logistical constraints associated with data collection during a fast-moving pandemic response, future studies should aim to collect data from a larger sample of clinic attendees. Indeed, it would also be advantageous to collect data from community members who did *not* vaccinate at a given clinic in order to examine differences between these groups. Furthermore, we recommend longitudinal research designs to explore the extent to which factors associated with vaccination might differ between the first and subsequent vaccine doses. This may help explain why uptake of the COVID-19 vaccine differs between region and age group which was present in the county of Surrey for the first two vaccination doses (see Table 6 & Figure 1, Appendix C).

Finally, the positive views and general openness we observed in relation to receiving COVID-19 vaccinations in a faith centre indicates the possibility of considering increased engagement with relevant faith community leaders as trustworthy messengers for disseminating health information tailored to specific community needs, therefore promoting uptake of critical health behaviours in relevant groups. Future research should explore the effectiveness of such approaches.

Appendix B: Supplementary Study materials

Questionnaire (including information sheet and consent form):

Woking (Shah Jahan) Mosque Vaccine Centre Questionnaire

This short questionnaire will ask you about your experiences in the vaccination centre and your decision to get vaccinated today.
Your participation is completely voluntary, and if you do agree to take part then you can stop completing the questionnaire at any point. The information we gather will not identify you and cannot be used to contact you or affect you in any way. It should take no more than 5-10 minutes to complete. The main advantages to take part is to better understand why individuals do or do not get vaccinated and any benefits of the vaccination site.

Your individual data will be handled in compliance with the General Data Protection Regulations (GDPR) and will only be shared with colleagues from the NHS, Public Health England, primary care and Surrey Heartlands and are part of the service evaluation team. Aggregate results from the study will be written into a report which could be used to inform vaccination interventions and may also be published in an academic journal.

	Mark here
I agree to take part in this questionnaire	☐

Thank you for agreeing to complete this short questionnaire. There are no right or wrong answers, please just answer each question honestly.

1. Why did you choose to come to this centre for your vaccination? *(Please give any reasons that you can think of)*

2. Did you choose this vaccination centre because it was in the Mosque?

Yes	
No	

3. Would you have preferred to be vaccinated in a different location?

Yes	
No	

If you answered YES to Question 3: Where would you have preferred to be vaccinated?

4. Would you recommend your family and/or friends come to this vaccine centre to get their COVID-19 vaccine?

Yes	
No	

If you answered YES to Question 4: Why would you recommend your family and/or friends come to this vaccination centre to get their COVID-19 vaccine?

If you answered NO to Question 4: Why would you <u>not</u> recommend your family and/or friends come to this vaccination centre to get their COVID-19 vaccine?

5. How do you feel about there being a vaccination centre in the mosque?

6. How was your experience of getting vaccinated?

Very Pleasant	
Pleasant	
Neither Pleasant nor Unpleasant	
Unpleasant	
Very Unpleasant	

7. What was good about your vaccination experience today?

8. How do you think the vaccination experience could be improved?

9. Why did you decide to get vaccinated? [please tick as many as apply]

Protecting myself against coronavirus	
To protect me against coronavirus	
I would regret it if I didn't have the vaccine and then got coronavirus	
Protecting others against coronavirus	
To reduce the spread of coronavirus	
The vaccine won't work unless most people in the UK take it	
To protect other people from catching coronavirus	
Vaccine safety	
I believe the vaccine is safe	
Risk of coronavirus	
I am a key worker	
I work with individuals in high-risk groups	
I am a member of a high-risk group	
To allow me to see people who are important to me	
To allow me to get back to normal as soon as possible	
To allow me to go out of my home safely again	
To reduce the disruption to my children's education	
To allow me to get the help or care I need at home	
Behaviour/ intentions of people who are important to me	
People who are important to me (e.g., my friends, family, and community) have been vaccinated	
People who are important to me (e.g., friends, family, community) are planning to get vaccinated	
Recommended by people who are important to me	
People who are important to me (e.g., friends, family, community) wanted me to get vaccinated	
It was recommended to me by someone who is important to me (e.g., friend, family, community)	
It was recommended to me by the government	
It was recommended to me by a healthcare professional (e.g., your Doctor or the NHS)	
Practical factors	
The location is familiar to me	
The vaccination centre was easy for me to get to	

I come to this building regularly for other reasons	
I could access the centre via public transport	
I could get an appointment at a convenient time	
Other (please specify).	

The last few questions will ask you about your demographics.

10. What is your sex?

Male	
Female	
Prefer not to say	
Other (please specify)	

11. How old are you?

18-24	
25-34	
35-44	
45-54	
55-64	
65-74	
75-84	
85+	

12. What is your ethnic group?

White	
English/ Welsh/ Scottish/ Northern Irish/ British	
Irish	
Gypsy or Irish Traveller	
Any other White background (please describe)	
Mixed/ Multiple Ethnic Groups	
White and Black Caribbean	
White and Black African	

White and Asian	
Any other Mixed/ Multiple ethnic background (please describe)	
Asian/ Asian British	
Indian	
Pakistani	
Bangladeshi	
Chinese	
Any other Asian background (please describe)	
Black/ African/ Caribbean/ Black British	
African	
Caribbean	
Any other Black/ African/ Caribbean/ Black British	
Other ethnic group	
Arab	
Any other ethnic group, please describe	

13. Were you born in the UK?

Yes	
No	

14. Have you been told by your GP, the NHS or the Chief Medical Officer that you are at high risk of coronavirus?

Yes	
No	
Not sure	

15. What faith group do you belong to?

No religion	
Christian	
Buddhist	
Hindu	
Jewish	
Muslim	

Sikh	
Prefer not to say	
Any other religion (please specify below)	

16. Do you regularly attend the mosque?

Yes	
No	

If you answered "YES" to question 16: Please can you tell us about the activities that you regularly attend at the mosque?

Thank you very much for completing the questionnaire – please leave the questionnaire with the reception as you leave.