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**COVID-19 Vaccine Hesitancy across the Prison Estate**

**Thematic Review**

**Publication Date: 10.05.21**

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1. **Introduction**
	1. This thematic review analyses vaccine hesitancy by exploring those prisons with the highest vaccination decline rates to understand themes and trends, with a view to improving vaccine uptake across the estate. The prisons in this review have been selected due to having decline rates above 20% as per NHS data. We have also identified prisons with a high vaccination uptake rate in order to provide a comprehensive comparison and glean any best practice.
	2. To complete this analysis, local and national NHS data has been triangulated for accuracy and compared this with vaccine data from the community. This supports a broader understanding of vaccine hesitancy and allows us to establish links and trends between wider society and prisons.
	3. Factors such as ethnicity, gender, age, prison function and geography have been explored, which have been determined by community research and evidence, including a large-scale study into vaccine sentiment to determine anticipated uptake rates.
	4. The aim of this review is to utilise findings to set out a series of recommendations aimed at addressing vaccine hesitancy and to assist with meeting the Public Health England (PHE) target of 90% or more prisoners vaccinated. This target has been set with a view to reduce transmission and prevent outbreaks, which should allow HMPPS to safely progress the regime in prisons.
2. **High Decline Rate Sites**
	1. In this review those sites with a vaccine decline rate of over 20% based on NHS data from 8th March 2021 have been identified. This highlighted 26 sites across the country to base the thematic review on; from these 26 prisons, 20 replied to our queries and provided local decline rate data. Data from local healthcare providers has enabled a more comprehensive overview of decline rates, whilst exposing some weaknesses in central data.
	2. The graph below shows the decline rates of the 20 prisons, comparing NHS and local data. There is up to a 19% difference between the NHS and the local data, with this averaging at a 7% difference, either higher or lower, across the 20 sites. This can be seen in the table below.
3. **High Uptake Rate Sites**
	1. The same exercise was repeated for 12 prisons with the highest vaccine uptake rates, six of which have engaged with our enquiries. These sites were identified through NHS data from 8th March 2021.
	2. Again, data has been collated from local healthcare providers at individual prisons to give us a more comprehensive overview of the data. There are discrepancies between the NHS and local data with up to a 27% difference averaging at a 13% upward swing in decline rates across the six sites.

**What is the Data Telling Us?**

* 1. To better understand the data across the prison estate we have looked across a selection of sub-categories. These provide granularity within the data analysis and establish any trends, with a view of combating vaccine hesitancy. Findings by sub-category are set out below.

1. **Geography**
	1. Decline rates among each NHS region have increased significantly between 8th March and the 15th April 2021.
	2. From local feedback this increase in decline rates is strongly linked to 16 to 64-year olds with underlying health conditions who represent cohort 6, with local data suggesting this is focussed towards the younger end of this age bracket.
	3. In HMPPS research, one of the main reasons cited for prisoner decline has been blood clot fears. The reporting of the link between the AstraZeneca vaccine and blood clots surfaced in early March 2021, which would also correlate with the decrease in vaccination uptake across regions.
	4. The below table shows the hesitancy rates by region between the two dates.

|  |  |  |
| --- | --- | --- |
| **NHS Regions** | **Decline Rates 08.03.21** | **Decline Rates 15.04.21** |
| East of England | 9% | 17% |
| London | 24% | 34% |
| Midlands | 12% | 20% |
| North East and Yorkshire | 8% | 13% |
| North West | 14% | 15% |
| South East | 15% | 25% |
| South West | 5% | 12% |

* 1. The Graph below represents the prisoner vaccine hesitancy rates per NHS region across England from the 8th March 2021. This is compared to community hesitancy rates provided by the Office for National Statistics (ONS) from a comparable date of the 14th March to the 25th April.
	2. Vaccine sentiment research in the community indicates that the South West has the lowest percentage of vaccine hesitancy at 4%, whilst London has the highest at 9%. As of the 15th April, NHS data shows that London prisons had the highest hesitancy rate at 39%, comparative to 10% in the South West and 13% in North East and Yorkshire, showing consistency between community trends and the prison estate. It is apparent that prisoner vaccine hesitancy rates are significantly worse than those in the community, which, coupled with existing inequalities (such as overrepresentation of minority ethnicity groups and poorer health outcomes), will only exacerbate these divides further.
	3. Geography has proven a challenging paradigm to explore in terms of vaccine hesitancy, as it often branches out into other categories, not least ethnicity. For instance, when considering London’s high decline rate and how it is four times higher than that in the community, we must draw attention to the fact that six out of the top ten prisons with the highest Black, Asian and Minority Ethnic (BAME) population are situated in London. Conversely the North East, its decline rate only twice as high as that found in its community, is home to the top five prisons in the country with the highest white populations. If extrapolating this out, there is some evidence that city-based prisons, such as HMP Birmingham and HMP Bristol, have both higher decline rates and ethnically diverse populations, compared to ethnically homogenous sites like Hull where higher vaccine uptake rates can be observed.
	4. However, there are city prisons that do not fit with this assertion and so consideration must also be given other factors that may play into vaccine hesitancy at these sites. Research conducted by the Office of National Statistics shows the link between poverty and vaccine uptake, with those who live in the most deprived areas being four times more likely to report vaccine hesitancy than those in the least deprived areas.
	5. UK government statistics show that London has the highest rate of poverty, with 16% of people of all ages in persistent low income. Whilst as a standalone figure this sounds like it could be a contributing factor as equally important as ethnicity, the region with the second highest poverty rates, at 15%, is the North East where vaccine uptake is high. This reduces the likelihood of poverty being a dominant factor in vaccine hesitancy but may still be a contributing factor in certain areas of the country and so must be taken into consideration when creating our communications packages.
	6. Vaccine hesitancy based on Index of Multiple Deprivation (IMD), England, 17th February to 14th March 2021.



Decline Rate

1. **Ethnicity**
	1. It is worth considering the vaccine rollout and decline rates in the context of ethnicity. Data from the community suggests that vaccine hesitancy amongst ethnic minorities is not exclusive to the Covid 19 vaccination programme. When looking at community decline rates the British Medical Journal (BMJ) state that:

*‘This data follows a historical trend of lower vaccine uptake in areas with a higher proportion of ethnic minority groups in England. Cohort studies using a primary care database of 12 million people show consistently lower uptake of influenza and pneumococcal vaccines in black Caribbean and African populations (50%) than in the white population (70%); lower vaccine uptake was also observed in people from South Asian backgrounds.’*

* 1. The BMJ quote the following to provide some historical context into Covid-19 vaccine hesitancy among ethnic minority groups:

*‘Trust is eroded by systemic racism and discrimination, previous unethical healthcare research in black populations, under-representation of minorities in health research and vaccine trials, and negative experiences within a culturally insensitive healthcare system.’*

* 1. Looking at the prisons with decline rates over 20%, six out of the top ten sites with the highest decline rate also have the highest percentage of BAME prisoners in their population. These six sites are HMP/YOI Isis, HMP Huntercombe, HMP/YOI Aylesbury, HMP Brixton, HMP Onley and HMP Pentonville, with NHS decline rates varying from 24% to 34% and local data decline rates varying from 15% to 53%. When collecting feedback on vaccine hesitancy from these sites, the prisons cited decline reasons such as:
* Family influence was cited as a big factor at HMP Brixton, HMP/YOI Aylesbury and HMP/YOI Isis, with family members telling prisoners to either wait to have the vaccine when released or not at all.
* Lack of trust in the government was noted at HMP/YOI Aylesbury and HMP Huntercombe, which has also been noted in research into BAME hesitancy in the community.
* Not wanting to be ‘guinea pigs’ was also cited as a reason at multiple prisons, which could be linked to the history of racism in medicine and the mortality rate discrepancies still prevalent to this day. For instance, a recent report from MBRRACE-UK highlights that Black women are four times more likely than White women to die in pregnancy or childbirth. In a report published on 26th February 2021 by the government, data drawn from ONS, NHS England and academic research also demonstrated that during the first wave of COVID-19, Black African men were almost at three times greater risk of dying than White men of the same age.
* Prisoners at HMP/YOI Isis stated they felt safe in prison, citing Reverse Cohorting Units (RCU)s, testing, and regime restrictions as sufficient. This resulted in reduced fear that the virus would either reach them or impact them significantly enough to require the vaccine.
	1. When analysing the reverse of this, prisons with the highest proportion of white prisoners tend to correlate with the highest vaccine uptake rates. Two of the top ten prisons with the highest white population appear on our list of high uptake sites: HMP Styal and HMP Humber. The below graph represents vaccine decline rates by ethnicity both in the community and custody, with trends broadly mirrored across both settings.
	2. Vaccine hesitancy in the community among Back or Black British people is at 30%, whereas White British hesitancy is at 6%. This is intensified in prisons, with an average 47% decline rate for Black or Black British people. This figure drops to 17% for White British people in prison, although this is still considerably higher than the community decline rate.
	3. HMP Thameside is an outlier within our data, having the third highest BAME prisoner population across the prison estate but an 18% vaccine decline rate. This decline rate, whilst still high, is significantly lower than other prisons with high proportion BAME populations and is the lowest decline rate amongst the London prisons. When querying their local approach to glean any best practice, HMP Thameside stated their vaccination rollout was a traditional programme, akin to flu vaccination clinics, and that they had perhaps been ‘lucky’ with their residents. However, it is worth noting that 90% of Thameside Healthcare staff are BAME, which may have assisted in their relatively high uptake rate. Peer influence has been proven to positively effect vaccine uptake, as it feeds into the idea of social norms and may go some way to explain this trend at Thameside.
	4. Comparatively, the prison next door to Thameside, HMP Isis, have a high proportion of BAME prison officers, but a much higher decline rate at 53% – whilst their average prisoner age skews younger than Thameside’s and may be a contributing factor, we can infer that in order for peer influence to take effect it is not simply enough to have similar ethnicity breakdowns for staff and prisoners, but that specific job roles and knowledge bases matter, especially when relating to an individual’s health.
1. **Prison Category/Function**
	1. The below table shows decline rates from 26th March to 15th April based on prison function.

|  |  |  |
| --- | --- | --- |
| **Prison Function** | **Decline Rates 08.03.21** | **Decline Rates 15.04.21** |
| Female Closed | 6% | 10% |
| Female Local | 17% | 15% |
| Female Open | 8% | 9% |
| Male Category B | 11% | 21% |
| Male Category C | 9% | 16% |
| Male Closed YOI | 17% | 34% |
| Male Dispersal | 4% | 15% |
| Male Local | 13% | 27% |
| Male Open | 6% | 10% |

* 1. Here the most recent figures show Male Closed YOIs having the highest decline rate at 34%, whereas Female Local prisons have the lowest at 9%. Noticeably between 8th March and 15th April, each prison function has seen an increase in decline rates except for the Female Local estate, who saw a 2% decrease.
	2. From liaising with establishments, the broad increase in decline rates (with the exception of Female Locals) can be attributed to the progression of the vaccine rollout where NHS are now vaccinating those of a younger age, namely Cohort 6, where significant vaccine decline rates have been noted compared to earlier Cohorts. From local healthcare feedback, younger people within Cohort 6 are less engaged in general with the vaccine rollout and negative parental influence is strongly affecting young people’s reasoning.
	3. Concerns regarding fertility and pregnancy are also strongly linked to this decline in young people, with the negative media hysteria and fake news. This was especially prevalent towards the start of the rollout - accurate information and assurance has now been provided to women, which may explain why their decline rate has dropped, although young males continue to cite fertility as a concern when declining the vaccine. Further feedback suggests that young people are more willing to take the risk of contracting Covid 19, instead of putting themselves through the burden/ inconvenience of a vaccination and potentially being ill from this. Feedback from prisons also cite staff being ill from their vaccination as having a negative effect on prisoners and making them less willing to accept the vaccine.
	4. Privately Managed Prisons (PMPs), specifically Serco managed prisons, have been identified as performing well with vaccine uptake. Serco manage five prisons in England and Wales, three of which are prisons with high uptake rates. These include Ashfield, Thameside and Lowdham Grange. The following information in relation to vaccine hesitancy has been provided by these sites:
* HMP Ashfield houses prisoners convicted of sexual offences and have an older, largely static population, factors noted as having contributed to higher uptake rates in Public Sector Prisons. However, Ashfield have cited a proactive healthcare provider assisting with their uptake rates, with a healthcare services promotion day held at the prison and follow up conversations had one to one with all those who expressed hesitancy.
* HMP Thameside have stated their vaccination rollout is a traditional clinic lead programme and that they have perhaps been ‘lucky’ with their residents. They also cite having a 90% BAME Healthcare staff population. This is important due to Thameside having the third highest BAME prisoner population. Positive peer influence is seen as central in influencing vaccination decisions within research and may go some way to explaining their high uptake.
	1. It is possible that a prison’s approach to the vaccine programme can impact on the uptake rate regardless of function, age, or ethnicity breakdown. HMP Buckley Hall, whilst an Adult Category C prison and so not a function of concern as such, has a breakdown showing 62% of its population are aged 18-39. Despite having large numbers of younger adults within cohort 6, Buckley Hall have seen a lower decline rate than other prisons with similar age findings. When talking to the prison and their local healthcare provider, a very proactive approach was identified that covered the following points:
* Providing information and one to one sessions to discuss hesitancy prior to offering prisoners the vaccine.
* Providing a friendly, welcoming and relaxed vaccination space, which they feel has reassured prisoners and promoted the service.
* Healthcare spending a lot of time on the wings over the last year, building very good relationships with the majority of prisoners and overcoming issues of mistrust.
* Having promoted the benefits of having the vaccine and how it is integral to moving forward and returning to ‘normality’.
1. **Age and Gender**
	1. When looking at community vaccine uptake those aged 16 to 29 are most likely to decline the vaccine, based on a study by the Office for National Statistics (ONS) into vaccine hesitancy. Here the decline rate is estimated at 10-14% for those aged 16 to 29 compared to those aged 70 and over who have indicated only a 1% decline rate. This is in line with Male YOI prisons, who average 34% decline rate.
	2. The caveat to this is when age is broken down further and the aspect of gender considered within the community data. Although similar proportions of men and women reported that they would be hesitant towards having a COVID-19 vaccine overall, a slightly higher proportion of younger women (aged 16 to 29 years) reported vaccine hesitancy (14%) compared with men in the same age group (10%). Proportions were similar for men and women in older age groups.

**(United Kingdom, 17th February to 14th March 2021)**

* 1. Higher vaccine hesitancy rates amongst women aged 16-29 is worth exploring, as this does not appear to have transferred over to the prison estate as other community trends have done. Instead, the Female Estate has the highest vaccine compliancy rate.. Instead, the Female Estate has the highest vaccine compliancy rate. Noticeably Female Closed and Open prisons are at 10% and 9% vaccine decline rate respectively, whereas the Female Local sites increases to 15%. Even still, Female Locals have a 12% lower decline rate than the Male Locals (27%) and 19% lower decline rate than the Male YOIs (34%).
	2. Research in community vaccine hesitancy among young women is driven by the perceived risk of vaccines on fertility and pregnancy. This is rationalised when considering the lack of vaccine testing on pregnant women historically and the Thalidomide scandal forming part of this rhetoric.
	3. Despite this, higher levels of vaccine hesitancy amongst women are not necessarily commuting to prisons. When contacted, HMP Styal cited their decline rates as very low and for mostly non fertility reasons such as:
* Not feeling well enough at the time of appointment so to be rebooked for another time.
* 50% of noted declines are due to behavioural issues and not engaging with anything medical related.
	1. Prisoners at HMP Nottingham and HMP Isis cited infertility and a negative effect on their sex drive as reasons not to have the vaccine. Parental influence amongst young men in prison was also a central reason for vaccine decline, having been cited across all eight YOI prisons and most Local prisons who provided decline data.
1. **Conclusion and Recommendations**
	1. It is important to understand that the data available to us at the time of writing was not as robust as all parties would have liked, therefore making it difficult to accurately analyse and establish trends. Local data has highlighted this and has gone someway to achieving a better understanding of vaccine uptake and very recently NHSEI has provided some more robust data, which have broadly matched and confirmed our findings. When considering the content of this thematic review, there is evidence that community trends such as age, ethnicity and locality are commutable to the custodial environment. Noticeably community trends regarding female uptake is not necessarily commuted to the custodial environment.
	2. A pattern emerges whereby residents who are younger and from minority ethnic groups may be more likely to decline the vaccine offer. Information concerning vaccine hesitancy amongst prisoners has provided a more solid and well-rounded understanding of problems at a micro level. Community research suggests that vaccine scepticism is linked to a wider crisis of trust. This is not exclusive to Covid 19 and forms part of historical trends concerning vaccine uptake. We can see that this trust or lack of trust may be amplified within a custodial setting, with individuals who often have a strained relationship with authority mistrusting official messaging and the motives behind it.
	3. It is important we continue to build trust in prisons through:
* Clear and consistent communication and education from trusted and credible sources.
* Positive peer influence.
* Positive staff relationships.
* Positive vaccination experiences at a practical level.
	1. It is important to understand emerging problems and take a proactive approach to address these. Local prison feedback has provided an insight into some of the ongoing themes and challenges in terms of hesitancy at ground level. It is important that the hard work surrounding vaccine motivation and education is completed prior to the offer of a vaccination, so the prisoner is confident in the process. A reactive approach can often result in frustration for prisoners who are being offered the vaccine numerous times without their motivation being altered.
	2. Community research indicates that there is a higher willingness to accept vaccination during COVID peaks/lockdowns, and then declining intention as restrictions ease and peaks pass. This is a problem that we are likely to encounter in the coming months in a custodial environment when moving through regime stages and will need to be monitored closely.
	3. Now NHS are targeting vaccination towards younger and healthier people too, the personal benefits become less obvious to those individualists who do not see the bigger societal picture in terms of the vaccination process.
	4. Doctor Daniel Freeman, Professor of Clinical Psychology at the University of Oxford, frames this notion below:

*‘When I speak to people who are enthusiastic about vaccination, the first thing they say is that it helps everyone. In contrast, people wary of a vaccine often focus on their own situation: they’ll tell me that they’re unlikely to fall ill, for example, or worry about what may go wrong if they were to take a vaccine. But this perspective can change; when I’ve asked vaccine-hesitant individuals to imagine that someone close to them is especially vulnerable to COVID-19, they say that they’re more likely to get vaccinated.’*

* 1. Feedback from Category D prisons shows that prisoners in this environment are considering the wider benefit of being vaccinated when considering Release On Temporary Licence (ROTL) and family visits. It is important we try to harness this mentality in the closed estate. Discussions with the South West indicate that they are looking to trial offering a vaccine at discharge boards, in an exact attempt to do this. There will also be an opportunity with the reopening of visits and potential introduction of physical contact, to promote a wider community mentality amongst prisoners who may otherwise be hesitant to accept vaccination.
	2. Moving towards recommendations from this review we have seen that a lot of positive work is going on across the estate by healthcare providers and prison staff. To continue this progress and overcome future obstacles we plan to conduct:
* Further explorative work into female refusal rates in custody compared to higher rates in the community, with a view to glean some best practices that could be used across the estate.
* Further explorative work into BAME Healthcare staff and the correlation between BAME vaccine uptake in custody, as seen at HMP Thameside.
* Consistent and accurate communication to address existing and emerging fears in line with the current staff and prisoner newsletters.
* Specific communications to address the upcoming cohorts, namely young people.
* A strategic approach in harnessing peer influence/support.

*HMPPS Vaccines Team would like to take this opportunity to thank the prisons and local healthcare providers who contributed to this thematic review.*