Original Research

Locked Up and Locked Down: How the Covid-19 Pandemic has Impacted the Mental Health of Male Prisoners and Support Staff

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Abstract

Background: The impact of the Covid-19 pandemic on prisons across the world has been of much concern due to the increased risk of virus spread among a particularly vulnerable population. Efforts made to prevent spread of the virus have resulted in a range of restrictive measures with the aim of reducing contact between prisoners and staff. Unfortunately, restrictions have also resulted in increased time confined to cells, reduced occupation, and restricted access to services. The potential impact of this on a population that already presents with high rates of mental health difficulties requires consideration. Male prisoners may be at particularly high risk of experiencing negative outcomes. **Methods**: This study evaluated the impact of the pandemic and related changes upon the mental health of prisoners and staff within a male urban prison in the United Kingdom. A mixed methods approach with a convergent parallel design was used. Correlational and feature selection analysis was conducted on quantitative data. Qualitative data were subject to a thematic analysis. Findings were integrated at the point of summary and interpretation. **Results**: Prisoners and staff reported finding it hard to cope with changes and stressors associated with the pandemic. For prisoners, time spent locked in one's cell with limited access to activities and support was associated with poor mental health outcomes, and salient themes emerged of feeling trapped, isolated and neglected. For staff, concerns about prisoner welfare and worry about catching the virus was associated with increased anxiety and worry. Additionally finding it hard to cope with constant changes at work and reduced staffing resulted in unhealthy coping behaviours such as drinking and smoking. **Conclusions**: Findings suggest that the implementation of additional restrictions, within the already restricted prison environment, has had a significant negative impact on the mental health of both prisoners and staff. The potential long-term mental health difficulties resulting from this require further investigation, as does the likely negative impact on staff wellbeing and staff turnover. The effects of the pandemic appear to have heightened an already desperate need to consider the mental health and wellbeing of prisoners and prison staff which must be urgently addressed.

Keywords: Covid-19; pandemic; prison staff; prisoner; prison inmate; mental health; psychological wellbeing

"Feeling very vulnerable, like a sitting duck. We are all just there, waiting for the coronavirus to get us." (Prisoner)

"We are all trapped, if there is an outbreak inside this jail then we are all going to die." (Prisoner)

1. Introduction

The impact of the SARS-CoV-2 virus on mental health is increasingly of concern [1]. Fear of infection and death, significant periods of time spent alone and isolated, economic concerns, and ongoing misinformation have contributed to feelings of hopelessness and helplessness, fear, frustration and sadness [2,3]. It is generally accepted that during times of crisis it is natural and helpful to turn to social networks for support, but this has been challenging or impossible for many due to the restrictions in place [4].

Many have found a digital solution to this by socialising and finding intimacy through online communication platforms [5]. Other effective methods of maintaining good mental health and wellbeing during this challenging time have included spending time outside, engaging in hobbies, learning new skills, having a healthy and balanced diet, not spending time reading/watching news and updates relating to the pandemic, and following a routine [6,7]. While the pandemic has had an impact on everyone, not everyone has had the opportunity to engage in the kind of coping mechanisms described above that would help them to manage their mental health. The prison population is subject to restrictions that limit access and agency, preventing proactive attempts to engage in protective behaviours such as spending time outside, engaging in hobbies and acquiring new skills.

Viruses like Covid-19, which are transmitted from person to person, are at risk of spreading quickly in prisons; a risk that is increased by over-crowding, poor sanitation and ineffective ventilation [8,9]. The comparatively poor physical health of the prison population also makes prisoners more vulnerable to both contracting and being severely impacted by infectious disease [10]. Many changes have been implemented in an attempt to prevent spread of the virus, but these have also resulted in increased restrictions and reduced support for prisoners [11]. Prisoners have spent more time locked up and isolating in their cells, which has resulted in reduced access to showers, exercise, work and social time. Many departments such as education, healthcare, and probation have been running a reduced service with limited or no contact. Entry to prison establishments has been severely restricted, meaning no in person contact with support networks or external agencies/professionals. Sickness has severely impacted staffing levels, further reducing the regime that can be facilitated [12]. Furthermore, delays in court dates has meant that many have remained in these conditions for longer than necessary. The negative impact of these pressures was exemplified by the riots that broke out over 22 prisons across Italy in March 2020 [13].

Prisoners are already a psychologically vulnerable group with high levels of existing mental health difficulties. In the United Kingdom (UK), approximately 90% of prisoners are thought to meet criteria for a diagnosis of anxiety, depression, psychosis, personality disorder, and/or substance misuse disorder [14,15]. In addition to this, prevalence of childhood trauma amongst the UK prison population is thought to range between 24% and 53%, with other traumatic events experienced before and during the prison sentence being additional to this [16]. The prison environment presents additional challenges and is known to have a detrimental effect on mental wellbeing [17–21], while funding cuts and over-crowding contribute to an increasingly negative experience [21,22]. Physical and mental health outcomes for staff who work in prisons are also poor due to the challenging work, unpleasant environment, and experience of direct and vicarious trauma, which may make staff a vulnerable population too [23–27].

The need to consider the mental health impact of pandemic conditions upon prisoners and prison staff has been highlighted repeatedly [11,28–31], but to date, research exploring their experience and how their mental health has been effected is limited [12]. Here we present findings from a service development study conducted in an Urban Male prison during October, 2020, when prison restrictions in the United Kingdom were still severe. It is possible that men are comparatively more vulnerable to negative outcomes resulting from the pandemic. Lower rates of mask wearing and higher rates of social distancing rule breaking has been observed among men, and there is emerging evidence to suggest that women employ better coping mechanisms

[32,33]. The masculine stereotype, and both internal and external expectations of how men are supposed to behave, may result in men being less likely to seek help for mental health difficulties, and more likely to engage in externalising behaviours such as drinking, smoking, substance misuse and aggression [34].

There is a dearth of evidence pertaining to the experience of men in prison and the staff that support them in the context of these unprecedented times. Here we show findings from quantitative and qualitative analysis, performed on existing data, with the aim of providing an understanding of how the pandemic is experienced by prisoners and staff. We explore the impact of restrictions, changing work protocols, and increased risk on mental health and wellbeing. Due to the lack of existing data, an exploratory and inductive approach was taken to all analysis of data, allowing for novel themes and findings to emerge.

2. Methods

2.1 Setting

The data analysed in this report were collected as part of a service evaluation conducted in a local, Category B remand male prison in an urban area in the United Kingdom. This type of prison primarily accommodates prisoners who have come from or are engaged in a trial in a local court, and therefore prisoners are usually awaiting sentencing, attending court proceedings, are due for release in the local area, or have been given a short sentence by a local court. Despite being a Category B prison, prisoners from all categories are remanded in the prison as it serves a number of local courts: see Prison Reform Trust for a full explanation of prison categories [35].

Due to it being a local remand prison, prisoners are expected to stay for relatively brief periods of time. Prisoners have access to educational courses and opportunities for work, but these opportunities are more limited than found in prisons designed for longer stays. Under normal circumstances, prisoners would additionally be provided with time for association (either indoors or outdoors), attending the gym, accessing healthcare appointments, attending chaplaincy, visits with friends and family, and appointments with probation, offender managers, and legal professionals. This particular prison was built in 1842 in the Victorian Style to house 520 prisoners in individual cells (4 m × 3 m × 2 m). At the time of this study the official capacity was 999 prisoners, meaning most prisoners were sharing cells.

The data used in this study was collected during the week of 12th October, 2020, at which time the prison was adhering to an adjusted regime. All activities that required prisoners to be in groups had been stopped (e.g., educational classes, mental health and substance misuse group interventions, all but essential employment). The prison was in "outbreak" status, meaning it had enough confirmed cases of prisoners with Covid-19 that all but essential activity and movement was stopped. Visits from friends, fam-

ily and external professionals were not possible. Prisoners were locked in their cells for a minimum of 23 hours a day and meals were being delivered to the door rather than prisoners collecting food from the servery. Due to low staffing levels, also a result of the pandemic, there were times when prisoners were locked in their cells for entire days and access to showers and time outside was limited or impossible.

Access to mental health support was also limited during this time, to prevent further spread of infection. A full description of the mental health services provided under normal circumstances can be found in Kothari *et al*. [36]. For many, communication with mental health professionals was through locked cell doors or through in-cell telephones which had been fitted as an emergency measure in response to the pandemic. Some face-to-face appointments were available for those who were under the care of the Mental Health In-reach team due to having a diagnosis of a severe and enduring mental health disorder, for those presenting with high risk of suicide and/or self-harm risk, or for those who required in person appointments with psychiatrists to review medication.

The mental health team were providing "distraction packs" which included a range of readings, puzzles, mindful colouring, in-cell exercise tips, yoga instructions, and any other paper-based distraction materials [29]. In addition, therapeutic workbooks specifically designed by the psychology team were being distributed as needed, and where possible they were being used in a guided self-help manner with some support from primary care mental health and psychology staff. These workbooks were available for depression and low mood, anxiety and worry, trauma, anger management, and emotion regulation and interpersonal communication difficulties. They were based on cognitive behavioural therapy, compassion focused therapy, and dialectical behaviour therapy approaches. Outside of this, all usual therapeutic sessions were stopped to prevent spread of infection. It is worth noting that at this time, though there had been no deaths of prisoners due to Covid-19, there had been two staff who had sadly passed away after contracting the virus.

2.2 Measures

The aim of the service evaluation was to understand how both prisoners and staff were experiencing living and working in a prison during the pandemic. We wanted to understand whether there had been changes in their mental health and what had contributed to this. For prisoners, we wanted to understand the impact of the reduced regime and other changes brought about by the pandemic. We also wanted to know whether those that required it were feeling supported by the minimal services that the mental health team were able to provide, and whether there was more that we could do. With regard to staff, we wanted to gain an understanding of whether their mental health was being negatively impacted by working onsite during the pandemic,

what specific issues contributed to this most, whether they were feeling supported to cope, and again, what more could be done to support them further.

There were a number of challenges to collecting data at this time which were all due to the pandemic. As described above, only essential movement was allowed at this time, prisoners were not being unlocked from their cells outside of very specific times to reduce risk of infection, staffing levels were low due to many staff being unwell or isolating, and those that were onsite were extremely busy. Due to this it was not possible to conduct interviews or focus groups which would have provided rich data and an in-depth understanding. Another challenge was the lack of existing, validated measures that were appropriate to our aims. This is often the case for the prison population, but particularly the case due to the unprecedented nature of the situation. Finally, due to the challenges and traumas that prisoners have faced, and due to the high prevalence of neurodevelopmental differences, often previously undiagnosed, many prisoners have had a poor educational background which has resulted in limited reading and writing ability. Due to all of these challenges it was decided that specific surveys would be developed for prisoners and staff that would: (i) specifically ask the questions that we were interested in to enable us to better understand and better develop our services; (ii) ask the questions in a simple and straight forward manner using easily understandable language; and (iii) were quick to complete so as not to take up too much time.

A mixed-methods approach was used to develop the survey. Closed questions with tick box options were provided, employing a deductive approach to measure the aspects of mental health and care that we were already interested in. Open ended questions with room for written answers were also included, employing an inductive approach. We felt this was important due to the limited evidence base pertaining to this area and therefore the potential for there to be a wide range of experiences that we would not already know to ask about.

The staff survey asked whether various aspects of working during the pandemic were having an impact on their mental health, whether they felt that various aspects of their mental health had deteriorated, and whether they had support at work or at home that they found helpful. An example of this is, "How much have the following had a negative impact on your mental health?", with a range of factors to consider such as, "Worrying about catching Covid-19 while at work" or "Feeling frustrated that you can't help the prisoners more" or "Coping with staff shortages", and staff were able to respond on a three-point Likert scale (i.e., "Not at all", "Somewhat", or "A lot").

The prisoner survey similarly asked about the impact of changes in the regime, concerns about management of the pandemic in the prison, and more generally, the impact of this on their mental health, whether they were finding

the support provided by the mental health team helpful, and what more they felt could be done to support them better. An example of this is, "How have the changes in the prison affected the following?", with factors to consider including, "Feeling low in mood/depressed" or "Feeling anxious" or "Suicidal thoughts", and prisoners were also able to respond on a three-point Likert scale: "Better", "The same", or "Worse."

The questions were based on informal discussion between healthcare and operational staff who had contributed from their own experiences, from the experiences of colleagues they had spoken with, and from conversations they had had with prisoners through their work. Unfortunately, it was not possible to test out questions with a pilot group and develop the questionnaire further based on feedback, or to validate the surveys. This was due to time pressure, clinical responsibilities that were of greater priority at this time, and due to precautions associated with the pandemic that are described above. The final questions were, however, reviewed by occupational therapies staff (J.S. and J.H), psychology staff (R.K. and N.S.), and the main governor of the establishment (I.B.) so that multiple perspectives from a range of professionals were considered.

2.3 Procedure

Prisoner and staff questionnaires with open and closed questions, asking about the impact of the pandemic while living/working in a prison, were specifically created as described above. All prisoners residing in the prison were offered the opportunity to participate over the period of a week in October 2020. The surveys were delivered to their cells with information sheets, consent forms, and envelopes for return. Staff revisited prisoners at their cells to collect responses and answer questions. Additional responses were posted in by prisoners to the healthcare department over the following weeks. All staff, (operational and otherwise), were offered the opportunity to participate during a socially distanced coffee morning held for World Mental Health day, also in October 2020.

2.4 Participants

At the time of the study the prison population consisted of 988 male prisoners with a mean age of 33 years old (range 18–79). A total of 104 prisoners (mean age = 36 years old; range = 18–61) and 87 staff (mean age = 37 years old; range = 19–65) completed questionnaires.

2.5 Design

This study used anonymised data collected as part of a service evaluation, meaning ethical approval was not required as per guidelines set out by the Health Research Authority [37]. The study was registered with the local mental health trust, all participants (prisoners and staff) provided informed consent before participating, and findings have been fed back to relevant teams to aid development of ser-

vices within the establishment.

A mixed methods approach was used at the data collection phase through the inclusion of closed questions that could be responded to using Likert scales, and through the inclusion of open questions with space from written responses. A deductive approach was taken to collect specific data pertaining to need and delivery of care (closed questions), and an inductive approach was used to explore other difficulties, concerns, and experiences (open questions). A convergent parallel design was used, with both quantitative and qualitative data being collected simultaneously. This was due to practical considerations associated with precautions being taken across the prison to prevent virus spread. Qualitative and quantitative data were given equal weight and were analysed separately, but findings from both were compared and integrated for interpretation.

2.6 Quantitative Data Analysis

The relevant survey data were analysed to establish which SARS-CoV-2 virus related changes and stressors predicted variation in mental health and wellbeing outcomes. For prisoners, predictors included: changes to the prison regime, (e.g., more time spent in cells, cancellation of visits, ongoing changes in the prison timetable); reduced access to services, (e.g., reduced mental and physical health support, reduced education, limited or no work/jobs, no access to the gym); the impact of changes on factors that might affect likelihood and timing of release, (e.g., housing arrangements, parole arrangements, mental health referrals); and finally, concerns about how the virus was being managed both in the prison and in the community. To enable analysis, all predictors were dichotomised to indicate whether prisoners felt they had (1) or had not (0) found these factors "hard" or "worrying". Mental health and wellbeing outcomes for prisoners included: changes in factors associated with common mental health difficulties, (e.g., low mood, anxiety, worry, frustration, anger, appetite, sleep); changes in symptoms associated with trauma, which is highly prevalent in the prison population, (e.g., nightmares, upsetting thoughts, upsetting memories, feeling scared); changes in experiences associated with psychotic disorders such as delusions or hallucinations, (i.e., experiences of voices and visions); and changes in other thoughts and behaviours associated with declining mental health presentation, (e.g., substance misuse, arguments, deliberate self-harm, suicidal thoughts). For analysis these outcomes were used as originally responded to in the survey (i.e., three outcomes: better, the same, or worse).

For staff, predictors included: factors associated with working onsite during the SARS-CoV-2 virus at a time when much of society in the United Kingdom was working from home, (e.g., worry about catching the virus, worry about infecting friends and family, worry about colleagues who were unwell); factors associated with changes to the usual working patterns, (e.g., coping with staff shortages,

coping with ongoing changes to the regime/timetable); and due to literature indicating risk of moral injury among care and support staff who are unable to provide effective care and support, factors associated with concerns about the prisoners, (e.g., worrying about the prisoners, feeling frustrated about not being able to help the prisoners more). In addition, other predictors that might be framed well as protective factors were included, (e.g., whether support from friends and family or support at work was helpful, whether engaging in exercise and hobbies was helpful). Mental health and wellbeing outcomes for staff included: changes in factors associated with common mental health difficulties, (e.g., low mood, anxiety, worry, frustration and anger, appetite, and sleep); and factors associated with poor coping or deterioration in wellbeing, (drinking and smoking). For analysis pertaining to staff all predictors were dichotomised, (i.e., factors associated with SARS-CoV-2 virus did not (0) or did (1) have a negative impact on wellbeing), as were the predictors framed as protective factors, (i.e., support/engagement in activities was not (0) or was (1) helpful), and mental health and wellbeing outcomes, (i.e., working during the pandemic had not (0) or had (1) had a negative impact).

Initially, to identify correlated variables, correlation plots were generated for both prisoner and staff predictors and outcomes. To accomplish this we used the R statistical computing environment (version 4.1.2.; R Core Team (2020); Vienna, Austria). The rcorr() function from R package Hmisc [38] was used to calculate Pearson correlation coefficients and their statistical significances for every outcome and predictor in an all-against-all fashion.

To establish which predictors were best associated with each outcome we turned to a common methodology in Machine Learning and Data Science, Feature Selection [39]. This approach was used because it is appropriate for datasets where there may be complex or non-linear relationships between predictor and outcome variables. By constructing a series of estimators, Feature Selection aims to establish which minimal set of predictors (commonly called Features) contain the greatest amount of information through which a given outcome may be modelled or estimated. When using this approach, an estimator with all possible features is trained. Features are then eliminated recursively such that estimators for all subsets of features are considered. Outputs are aggregated and the best performing minimal set of features associated with each outcome are selected. A benefit of the approach is that features are selected without researcher intervention, which can be a source of bias.

Here, the Recursive Feature Elimination method, rfe(), from the R package Caret [40] was used to perform the feature selection. To estimate the performance of each predictor variable in modelling each outcome rfe() was configured to use $10\times$ repeated cross-validation, repeated 5 times using the default Decision Tree estimator methodology. The results report these sets of features and the associated R^2 value. All code has been made available under the GPLv3 licence via github at https://github.com/DanBuchan/pentonville_covid_survey_analysis.

2.7 Qualitative Data Analysis

Written responses were analysed using a thematic analysis in accordance with the procedure outlined by Braun and Clarke [41]. Analysis used a data driven and flexible (i.e., inductive) approach to encourage the identification of unanticipated themes. The first, second and third authors (R.K., J.S., and J.H.) analysed the data using the following steps: immersing oneself in the data through reading and re-reading responses; identifying initial themes individually and developing these further through discussion; reviewing the themes before defining and labelling them; and finally, creating a written analysis of the themes including example responses. To prevent loss of themes or sub-themes, all written data was analysed together without being directly related to the question asked. Data from prisoner and staff surveys were initially analysed together, but due to the heterogeneity observed across both, prisoner and staff data were re-analysed separately.

Qualitative findings were evaluated for trustworthiness using criteria developed by Lincoln and Guba [42]. The Credibility criterion, (i.e., the "truth" of the data and the accurate representation of it), was met through inviting staff who work in prisons, uninvolved in the analysis, to review the themes and consider whether the descriptions and themes were relatable. Unfortunately, this was not possible with prisoners. The Dependability criterion, (i.e., whether findings are replicated in similar studies that are conducted in similar settings), will be born out in future research, but comparisons were made with the limited research in the area to consider similarities and differences (see discussion). Confirmability and Authenticity criteria, (i.e., that interpretation of findings is representative of the data and experience of participants), were met through inclusion of complete and rich quotes from participants' written responses to exemplify the identified themes. The Transferability criterion could not be met due to the data analysed being part of a service development project.

2.8 Researcher Characteristics

The first, second and third authors performed the main thematic analysis of qualitative data. R.K. is a female Clinical and Research Psychologist of Asian British Ethnicity. J.S. is a female occupational therapist of White British heritage. J.H. is a male occupational therapist of White British heritage. All three authors were working in the establishment at the time of data collection and were very familiar with the environment and conditions at the time. To adjust for any potential bias in the analysis due to the analysing authors being onsite at the time of data collection, the themes were reviewed by a healthcare professional that was off-site

Table 1. Whether prisoners found SARS-CoV-2 related changes and stressors hard or worrying; frequencies and percentages.

	Found it hard or worrying.	
	No; n (%)	Yes; n (%)
Delays/changes in court dates	14 (22)	50 (78)
More time spent in cell	2 (3)	62 (97)
Less showers	2 (3)	62 (97)
No visits	9 (14)	55 (86)
Less prison staff	15 (23)	49 (77)
No education	7 (11)	57 (90)
Less jobs/work	5 (8)	59 (92)
Less mental health support	7 (11)	57 (89)
Less physical health support	6 (9)	58 (91)
More time spent with cell mate	22 (34)	42 (66)
Changing prison timetable	8 (13)	56 (88)
Less exercise/gym	4 (6)	60 (94)
Difficulty keeping busy in your cell	6 (9)	58 (91)
Management of virus in prison	15 (23)	49 (77)
Management of virus in community	17 (27)	46 (73)
Impact of housing arrangements upon release	15 (24)	47 (76)
Impact of probation arrangements upon release	15 (24)	47 (76)
Impact of mental health arrangements upon release	20 (31)	44 (69)
Impact of physical health arrangements upon release	16 (25)	48 (75)

Table 2. The impact of SARS-CoV-2 related changes and stressors on mental health outcomes among prisoners; frequencies and percentages.

	Better; n (%)	The Same; n (%)	Worse; n (%)
Low mood/depression	1 (1)	18 (28)	45 (70)
Feeling anxious	1 (1)	20 (31)	43 (67)
Feeling scared	8 (12)	39 (61)	17 (27)
Worry	4 (6)	24 (38)	36 (56)
Voices and Visions	10 (16)	30 (47)	24 (38)
Sleeping too much/not enough	1 (2)	25 (39)	38 (59)
Eating too much/too little	4 (7)	32 (50)	28 (44)
Using drugs	25 (39)	33 (52)	6 (9)
Upsetting thoughts	2 (3)	26 (41)	36 (56)
Upsetting memories	2 (3)	25 (39)	37 (58)
Nightmares	8 (12)	29 (45)	27 (42)
Frustration and anger	2 (3)	20 (31)	42 (66)
Arguments	14 (22)	31 (48)	19 (30)
Deliberate self harm	18 (28)	33 (52)	13 (20)
Suicidal thoughts	18 (28)	36 (56)	10 (16)
Feeling safe	7 (11)	38 (59)	19 (30)

during the pandemic (N.S.). To ensure the themes and interpretation were representative from an operational perspective, themes were also reviewed by a member of operational staff (I.B.).

3. Results

3.1 Quantitative Results from Prisoner Survey

Predictor and outcome frequencies are presented. Across all predictors, a greater proportion of prisoners re-

ported finding it hard to cope with SARS-CoV-2 related changes and stressors, relative to those who did not (Table 1). With regard to the impact of SARS-CoV-2 related changes and stressors on mental health and wellbeing, outcomes were varied (Table 2).

Pearson's correlation analysis showed a number of significant correlations between predictors and outcomes (Table 3). Of note are some highly statistically significant positive correlations of moderate to large effect size [43] between feeling low in mood/depressed and worry about

Table 3. Correlations (*r* values) between predictors (SARS-CoV-2 related changes and stressors) and outcomes (mental health and wellbeing outcomes).

		Mental Health and Wellbeing Outcomes															
		Feeling low in mood/ depressed	Feeling anxious	Feeling scared	Worrying about th-ings	Experienc-ing voices and visi-ons	Sleeping to much/not enough	Eating too much/too little	Using drugs	Having up-setting thoughts	Thinking about upsetting memories	Having nightm-ares	Felling fru-strated or an-gry	Having ar-guments or fights with others	Thoughts of harming yourself	Suicidal thoughts	Feeling safe
SARS-CoV-2 Related Changes a-nd Stressors	Delays/changes in court dates	0.1	0.02	**0.3 ****	**0.3 ***	0.2	0.03	0.2	**0.4 ****	**0.3 ***	0.1	**0.3 ***	0.002	0.2	0.2	**0.2 ***	**0.2 ***
	More time spent in cell	0.01	–0.02	–0.2	–0.2	0.1	–0.04	–0.2	–0.1	–0.05	–0.04	0.1	–0.02	–0.2	–0.03	0.1	–0.2
	Less showers	0.1	–0.1	–0.1	–0.002	**0.3 ***	0.02	–0.03	0.1	0.01	0.01	0.2	–0.1	–0.1	–0.03	0.1	–0.1
	No visits	–0.2	–0.1	–0.04	0.1	–0.1	0.1	0.1	0.2	–0.1	–0.1	0.1	0.1	0.1	–0.1	0.02	0.1
	Less prison staff	–0.1	–0.1	0.02	–0.1	–0.01	–0.1	–0.1	0.03	–0.03	0.1	–0.1	–0.1	–0.01	0.01	–0.02	0.1
	No education	0.01	–0.04	–0.1	–0.04	–0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	**0.3 ***	0.2	–0.01
	Less jobs/work	**0.3 ***	0.01	0.2	0.04	0.1	**0.3 ***	0.1	–0.03	**0.3 ***	0.2	0.1	0.001	0.02	–0.04	–0.1	0.2
	Less mental health support	**0.3 ***	**0.3 ***	0.2	0.2	0.1	**0.3 ***	–0.02	–0.1	**0.2 ***	0.2	0.2	0.2	0.1	0.02	–0.1	**0.3 ***
	Less physical health support	–0.02	–0.2	0.004	0.04	–0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	**0.3 ***	0.2	0.1	0.2
	More time spent with cell mate	**0.3 ****	0.2	**0.3 ****	**0.2 ***	0.2	0.1	0.2	**0.3***	0.2	0.2	**0.3 ****	0.1	**0.3 ***	0.2	**0.2 ***	**0.4 *****
	Changing prison timetable	0.01	–0.04	0.1	0.2	0.2	0.004	0.1	0.1	0.1	0.1	0.2	0.03	0.1	0.1	0.1	**0.3 ***
	Less exercise/gym	–0.03	–0.1	0.1	0.1	0.2	–0.1	–0.1	0.1	0.02	0.1	0.03	–0.2	0.02	–0.02	0.04	0.2
	Keeping busy in your cell	0.2	0.2	0.2	**0.3 ****	0.1	0.1	0.1	0.03	**0.3 ***	**0.3 ***	0.2	0.1	0.2	0.1	0.1	**0.4 ****

Table 3. Continued.

		Mental Health and Wellbeing Outcomes														
		Feeling low in mood/depressed	Feeling anxious	Feeling scared	Worrying about th-ings	Experienc-ing voices and visi-ons	Sleeping to much/not enough	Eating too much/too little	Using drugs	Having up-setting thoughts	Thinking about upsetting memories	Having nightm-ares	Felling fru-strated or an-gry	Having ar-guments or fights with others	Thoughts of harming yourself	Suicidal thoughts	Feeling safe
	Worry about manage-ment of virus in prison	0.2	**0.4 *****	0.2	**0.3***	0.2	0.01	–0.1	0.02	0.1	0.1	0.1	**0.3***	0.2	**0.3 ***	**0.3 ***	0.2
	Worry about manage-ment of virus in com-munity	0.2	**0.3 ***	0.1	0.1	–0.1	0.1	0.04	0.04	0.2	**0.3 ****	–0.04	**0.3 ***	–0.1	0.2	0.1	0.1
	Worry about impact of housing arrangements upon release	**0.4 *****	**0.3 ***	0.2	**0.3 ***	0.1	**0.3 ****	0.1	–0.1	**0.4 *****	**0.3 ***	0.1	0.2	0.1	0.1	0.03	–0.02
	Worry about impact of probation arrangements upon release	**0.4 *****	**0.3 ***	0.02	**0.3 ****	0.2	**0.3 ***	0.2	–0.01	**0.3 ***	0.2	0.2	**0.3 ****	0.1	0.02	0.02	–0.01
	Worry about impact of mental health arrange-ments upon release	0.1	0.1	–0.1	0.04	0.1	0.1	0.02	–0.01	–0.01	–0.04	0.02	**0.2 ***	0.1	0.2	0.2	–0.1
	Worry about impact of physical health arrange-ments upon release	0.1	0.1	–0.1	0.1	0.04	0.1	0.01	–0.2	–0.04	–0.02	–0.1	**0.3 ***	0.1	0.1	0.1	–0.2

N.B. *significant to ≤0.05; **significant to ≤0.01; ***significant to ≤0.001.

the impact of housing arrangements on release ($r = 0.4$, $p \leq 0.001$), feeling low in mood/depressed and worry about the impact of probation arrangements on release ($r = 0.4$, $p \leq 0.001$); feeling anxious and worry about how the virus is being managed in the prison ($r = 0.4$, $p \leq 0.001$); having upsetting thoughts and worry about the impact of housing arrangements on release ($r = 0.4$, $p \leq 0.001$); and feeling less safe and spending more time with cell mate ($r = 0.4$, $p \leq 0.001$).

Predictors best associated with mental health and well-being outcomes are shown in Table 4. Notably, models predicting low mood, anxiety, upsetting memories and feeling safe explained the greatest degree of variance, equivalent to a moderate effect size ($R^2 = 3$).

3.2 Qualitative Results from Prisoner survey

A thematic analysis was conducted to further explore prisoner experience of being in prison during the pandemic. Six superordinate themes were identified, namely, Feeling Isolated, Feeling Trapped, Misinformation and Uncertainty about the Virus and Restrictions, Fear of Catching the Virus, Difficulty Maintaining Mental Health and Well-being, and finally, Positive Impact. Within these superordinate themes, 13 sub-themes were derived (Table 5) which are discussed below.

3.2.1 Theme One: Feeling Isolated

The value of human interaction was clear and the lack of it keenly felt, but in addition to this, being one of many prisoners, locked in one's cell for long stretches of time, with little staff contact, appeared to add to the feeling of isolation and result in a feeling of fear. There emerged from the data a feeling of being completely alone, despite being one of almost 1000 people, all sharing the same experience. Three sub-themes were identified within this superordinate theme: (i) The lack of social interaction, (ii) Distance from and worry about family, and (iii) Feeling forgotten about.

The increased time locked in cells resulted in reduced time to socialise and interact with others. This was noted to be challenging due to the lack of opportunity to share experiences, speak with officers, and experience face to face interactions. Notable was reference to the need for structured settings in which to socialise, rather than attempting to socialise in large groups on the yard during association, which could be experienced as a somewhat threatening setting. There also emerged a feeling that any social interaction that was possible was experienced as very superficial and brief, and there was a sense that this was felt to be less valuable (sub-theme: the lack of social interaction).

"I need structured routine and conversation i.e., cell association, human verbal face to face to meet and associate with people."

"The fact there is no association does not allow for normal interaction between inmates like building rapport amongst one another. This includes time spent speaking with Officers as every meeting is very superficial and extremely rushed."

"Yes making friends (is difficult) as there are next to no structured classes or activities where you can share experiences together. I consider myself a very social creature but I need to be able to find common ground with someone in a more relaxed environment than the yard where a lot of people seem to be on edge."

During the period in question all visits had been stopped to prevent, as much as possible, spread of the virus into and out of the prison. As might be expected, this was experienced as challenging, but additionally appeared to contribute to increased worry about how family were coping in the context of the pandemic. For those who were remanded in prison longer than expected, and for those with loved ones who were vulnerable, this was particularly difficult (sub-theme: distance from and worry about family).

"Doing extra time in jail, no family no friends. Away from my kids, my little angels, very difficult hard."

"Worrying about wife cause she's got severe health conditions and having no one to look after her. She suffers from arthritis in both legs, diabetes and heart problems."

"Not being able to speak to family face to face, less visits, also the whole regime being separated a lot."

"That my wife is dealing with it on the outside as she has a lot of mental health problems."

Analysis revealed a sense of feeling left behind, neglected and forgotten as a result of the increased isolation and additional time locked in cells. For some this was described in terms of their individual experiences, while for others it was felt as a result of comparisons with how other prisoners were being responded to. A sense of being ignored, and a fear of being unnoticed if a crisis did occur, was clear in the data (sub-theme: feeling forgotten about).

"This is my second time in prison and the worst experience. Can't do regular education course or get a job. I noticed the more calm and quiet you are the more problems you have like issues with inmates, guards ignoring you as they know you're a calm quiet person."

"Everyone on my wing (D wing) gets a shower every day but they give me a shower every other day for no reason."

"No one has checked up on me."

"I don't want to die in here alone."

3.2.2 Theme Two: Feeling Trapped

Prison is, by nature, an environment where one is likely to feel shut in; however, thematic analysis revealed a greater sense of feeling trapped due to changes associated with the pandemic. Three sub-themes were identified within this super-ordinate theme: (i) Sharing a cell, (ii) Lack of time out of one's cell, and (iii) Lack of legal or sentence progression.

As described above, almost all prisoners at this establishment have to share cells (2 people per cell), which was

Table 4. Predictive models for mental health and wellbeing outcomes identified through feature selection and showing the amount of variation predicted by the model (R^2).

Mental health and wellbeing outcomes	SARS-CoV-2 related changes and stressors that contribute to predictive models	R^2
Low mood	1. Worry about impact of housing arrangements on release. 2. Less mental health support. 3. More time spent with cell mate. 4. Worry about impact of probation arrangements upon release. 5. Less jobs/work.	0.3
Anxiety	1. Less mental health support. 2. Worry about management of virus in the prison. 3. Worry about impact of housing arrangements upon release. 4. Worry about impact of probation arrangements upon release.	0.3
Feeling scared	1. Delays/changes in court dates. 2. More time spent with cell mate. 3. Worry about impact of housing arrangements on release.	0.2
Worry	1. Worry about impact of housing arrangements upon release. 2. Difficulty keeping busy in cell. 3. Delays/changes in court dates. 4. Less mental health support.	0.2
Voices and Visions	None	N/A
Sleeping too much/not enough	1. No visits. 2. Less mental health support. 3. Worry about impact of housing arrangements upon release. 4. Less jobs/work.	0.2
Eating too much/too little	1. Less gym. 2. More time spent in cell. 3. No visits. 4. Worry about impact of housing arrangements upon release. 5. Worry about impact of probation arrangements upon release.	0.2
Drug use	1. Delays/changes in court dates. 2. More time spent with cell mates. 3. No education.	0.2
Upsetting thoughts	1. Worried about impact of housing arrangements upon release. 2. Less mental health support. 3. Worry about impact of probation arrangements upon release. 4. Less work/jobs. 5. Difficulty keeping busy in cell.	0.2
Upsetting memories	1. Difficulty keeping busy in cell. 2. Worry about management of virus in the community. 3. Less mental health support.	0.3
Nightmares	1. More time spent with cell mate. 2. Less mental health support. 3. Less prison staff. 4. Worry about impact of housing upon release arrangements. 5. Changes in prison timetable.	0.2

Table 4. Continued.

Mental health and wellbeing outcomes	SARS-CoV-2 related changes and stressors that contribute to predictive models	R^2
Frustration and anger	1. Worry about impact of probation arrangements upon release. 2. Less mental health support. 3. Worry about management of virus in the community. 4. Less gym. 5. No education.	0.2
Arguments	1. No visits. 2. Less physical health support. 3. Worry about management of virus in the community. 4. Difficulty keeping busy in cell. 5. No education.	0.2
Deliberate self harm	1. No education. 2. Less physical health support. 3. Worry about impact of probation arrangements upon release.	0.2
Suicidal thoughts	1. No education. 2. Less physical health support. 3. More time spent with cell mate. 4. Worry about management of virus in the prison.	0.1
Feeling safe	1. Changes in meal times. 2. More time spent with cell mate. 3. Difficulty keeping busy in cell.	0.3

clearly more challenging due to the increased time spent locked up during this period. For many this appeared have a negative impact on their mental health (sub-theme: sharing a cell).

"Sharing a cell as I'm a lifer on recall after serving 27 ½ years in jail, and I've always been in a single cell. I have been diagnosed with personality disorders, and find it hard to cope with my own demons, never mind a cellmate's problems. It's having a detrimental effect on my own management skills."

"I have been trying to see someone from mental health since I got here in June. I've put in app after app, reason I cannot live in a cell with anybody. So I have had to refuse and have been on basic until I can see somebody to tell them why this is. I will have no way around this it always ends up with me cutting someone which I don't want to do but will do if made to live in cell with anyone else so can you please come and see me so I can explain everything to you. Thank you."

The increased time locked in cells was challenging in many ways. Prisoners expressed clear frustration about how the lack of access to education, support, and basic amenities had a negative impact on their mental health and wellbeing. In addition to this, the long periods of being locked in one's cell, and the complete isolation in one's cell that occurred if a prisoner tested positive, was experienced as a breach of basic human rights (sub-theme: lack of time out of one's cell).

"Pure evil/being in cell 23 hours a day, with Covid-19

24 hours in your cell is unacceptable is crazy, we lost our 1 hour a day freedom in jail."

"The box isn't big enough!! Even the wafer-thin veneer of human decency within the system has been rendered into dust by incompetence and failure. Poor resource and change management!!!"

"Going 4–5 days without a shower!! Wtf!!! No access to complaints, education, moved from education, 1 keyworker session in 3 months for recovering addict!!! If your role is for everyone to reoffend you might as well just release us all so we can get on with it!!!"

In addition to feeling physically and mentally trapped, there was a sense of prisoners feeling trapped with regard to their legal proceedings and sentence progression. At the time that data were collected, transfer between prisons had been stopped to prevent virus spread and external professionals were not allowed into the establishment for the same reason. Additionally, many court cases had been delayed and cancelled, meaning prisoners were spending longer in prison awaiting trial than would usually be the case (sub-theme: lack of legal and sentence progression).

"No legal visits at the police station and at prison."

"My court case - I would have been in prison 2 years without even having my case heard."

3.2.3 Theme Three: Misinformation and Uncertainty about the Virus and Restrictions

Analysis revealed frustration and confusion regarding the information provided about the pandemic, the restrictions and precautions in place, and the consequences of

Table 5. Superordinate themes, sub-themes and codes derived from prisoner responses.

Superordinate Themes	Sub-themes	Codes Derived from Data
Feeling isolated	Lack of social interaction	No opportunities to build relationships with fellow prisoners.
		Superficial interactions with staff.
		Desire for face to face interaction.
	Distance from and worry about family	Missing family.
		Increased worry about how family are coping in the context of the pandemic; particularly family members who are vulnerable due to physical or mental health difficulties.
		Impact of having no in person, face to face visits with family.
	Feeling forgotten about	Being ignored by staff if not causing problems or drawing attention to oneself.
		Feeling that other prisoners are being afforded more time out of their cell or access to amenities.
		Lack of support and fear of being unnoticed when in crisis or unwell.
Feeling trapped	Sharing a cell	Lack of time to oneself.
		Negative impact on mental health difficulties.
	Lack of time out of cell	Reduced access to services and basic amenities.
		Long periods of time in cell and complete isolation in cell when testing positive being felt as unjust and breach of human rights.
	Lack of legal or sentence progression	Cancellations/delays in court cases resulting in longer time in prison.
		Limited or no access to legal professionals.
Misinformation and uncertainty about the virus and restrictions	Poor communication	Lack of clarity regarding changes to regime and procedures.
		Feeling of information being withheld.
		Uncertainty about how long restrictions will last.
	Anger at government	No-one understands the virus and how it works.
		Mismanagement by government and lack of leadership.
		Guidance constantly changing and not making sense.
Fear of catching the virus	Lack of PPP and social distancing	Personal protective equipment (PPE) not being provided to prisoners.
		Inability to follow social distancing guidance in prison.
		Increased risk of virus entering the prison through staff.
		Fear of outbreak in prison and the severe consequences of this.
	Injustice and unfairness in restrictions and precautions	Unfairness in differing guidance for prisoners and staff (e.g. staff can leave the building but family cannot visit).
		Staff not following safety precautions and putting prisoners at risk.
		Prison guidance not being consistent with guidance in the community.

Table 5. Continued.

Superordinate Themes	Sub-themes	Codes Derived from Data
Difficulty maintaining good mental health and wellbeing	Deterioration in mental health	More time to think resulting in more negative thinking.
		Changes to regime having a negative impact on mental health.
		More suicidal thoughts.
	Limited mental health support	Lack of support from mental health services and substance misuse team.
		Negative impact of not being able to attend therapeutic groups.
		Lack of private one-to-one sessions with mental health professionals.
		Positive impact of support from mental health team at a particularly challenging time.
		Self-help materials experienced as helpful.
	Lack of valued occupation	Negative impact of not having access to work, education, and the gym.
		Lack of understanding of why there is no access to helpful services, but interaction with prisoners is allowed in other settings (e.g., in the yard).
		Watching television being the only pastime.
		Engaging in unhelpful habits such as smoking and eating due to boredom.
Positive impact		Feeling safer due to reduced interaction with other prisoners.
		Increased structure to the day through self-planning and predictable regime.
		Time to reflect.
		Ability to contact family when wanted due to in-cell phones.

associated changes. Two sub-themes were identified within this super-ordinate theme: (i) Poor communication and (ii) Anger at the Government.

The lack of clarity regarding changes to the regime, how long they might last, and the rational for them, appeared to result in a great deal of frustration and a sense of prisoners having even less control over their environment and routine than would usually be the case in prison. Also emerging from the data was a feeling of information being intentionally withheld from prisoners, potentially resulting from the lack of clear explanation (sub-theme: poor communication).

"Everyone seems confused as to the facts and regime and courts and the implications. It's just not clear enough!"

"It is unclear for how long we are going to be living like this, there is no communication from the staff and I feel that even though things are difficult, I feel like the system could be more flexible with certain things."

"We're not told the full picture. How can there be no Covid in the prison, yet the R rate risky outside."

More broadly speaking, prisoners also appeared to feel frustrated and angry in response to how the pandemic was being managed globally, not just within the prison. As was the case for many in the community, this anger was directed at leaders and the government (sub-theme: anger at the government). Data indicated that the confusion and constantly changing guidance was indicative of leadership not knowing what to do. It is possible that the increased time locked in one's cell, with minimal activity to engage in, amplified this in two ways: firstly, due to prisoners having less distraction and therefore more time to ruminate and worry; and secondly, due to television and radio being the main form of activity available, which is likely to have resulted in more time watching/listening to media broadcasting referring to the pandemic.

"They don't know where it's come from this is why there's all the changes happening and is it saliva in our spit or is it from surfaces we touch because it could be in water food also it could have come from animals so until then I think it's government who released this like a new world order."

"It's a joke not even Boris makes sense, he's constantly changing things. You can sit in a park but don't go to a pub cause if you do then you're fucked. You can go out in the daytime but make sure you're back by 10 or else you're fucked as covid only comes out at 10PM??"

"No one knows what's actually happening, Trump says one thing, Boris says another, left hand don't know what the right hand's doing."

3.2.4 ThemeFour: Fear of Catching the Virus

An understandable fear of catching the virus was very clear within the data and two sub-themes were identified within this super-ordinate theme: (i) Lack of personal and protective equipment (PPE) and social distancing, and (ii)

Injustice and unfairness in restrictions and precautions. Many prisoners described feeling very afraid of becoming unwell, of how the risk of this was high due to the lack of PPE use, the difficulty in prison to socially distance, and the fact that staff were coming in and out of the prison each day and may bring in the virus. During the period that data were collected there was still a scarcity of PPE, and while guidance from the national health service (NHS) mandated that staff wear masks, there was no such mandate in place for operational staff (i.e., prison officers). Prisoners had also not been issued face masks at this time which was clearly of great concern. Of note was the fear of not being helped if one did become sick and the fear of dying while in prison, which was also expressed within the context of feeling trapped (sub-theme: lack of PPE and social distancing).

"Having to talk to people who come from outside the prison every day and don't wear their face masks, worried about catching this virus. So if your staff are not taking precautions by earing facemasks, then issue them to us prisoners so that we can stay safe."

"Speaking to prison officers and professionals who come from outside the prison and could be carrying Covid virus. "We don't know". And I feel unsafe talking to them without being issues a face mask. You're allowed to get them issued anytime, and half the staff don't wear them. So year I'm very worried about catching this virus. Inmates should be issued with facemasks."

"I always wore a mask outside, and used hand sanitizer. Most staff don't wear masks and access to the hand sanitizers that have anything in them is nearly impossible."

"I don't know how much help I will get if I catch it in prison. Also I don't want to die in here alone."

"The spread of the virus in many prisons, and I'm worried about catching it, because you're not giving us any precautions/face masks. Which should be issues to us prisoners. Because it only takes one person to come in with this deadly virus."

"We are all trapped, if there is an outbreak inside this jail then we are all going to die."

For many, the fear of catching the virus and the concerns around PPE and other precautions were expressed as frustration regarding how things were managed. A clear sense of feeling at risk was apparent, but also a feeling of prisoners being treated unfairly in comparison to guidance for staff. Additionally, prisoners described concerns about the lack of consistency between guidance for the community and the protocols within the prison (sub-theme: injustice and unfairness in restrictions and precautions).

"Not all staff wear face coverings. They go home every night and come back in the next day. But when we get visits there's no physical contact."

"No masks on staff, WTF! Poor access to solicitor/barriester/justice! Staff standing in doorways breathing on you as you pass. Idiots who don't "believe" in Covid."

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"No gloves or masks they treat us like animals we have no saying in our own lives I hate this they treat us like dogs."

"Staff should be made to stay here as well. Clear out a wing, double the wages, work on a 2 week rolling quarantine system."

"The prison are not following the rule of 6, as stated by the Government, and also they are 30 people on the exercise yard! You are gonna kill people or make them sick, that's not right."

3.2.5 Theme Five: Difficulty Maintaining Good Mental Health and Wellbeing

Data clearly showed how hard prisoners found it to stay mentally well in prison during this period. Three sub-themes were identified within this superordinate theme: (i) Deterioration in mental health, (ii) Limited mental health support, and (iii) Lack of valued occupation.

Many described very difficult psychological experiences and some made specific reference to an increase in suicidal thinking. Changes in the regime were noted to be challenging and it appears as though the increased time locked in one's cell resulted in more negative thinking, and therefore a negative impact on one's mental health and wellbeing as a whole (sub-theme: deterioration in mental health).

"Trying not to overthink. That causes me to have bad panic attacks where my chest gets tight and hurts."

"Just more time to think about ways to commit suicide."

"Do feel like killing myself."

"People say they feel safer with this regime, but I actually feel like I'm losing my marbles."

During this period, as described above, access to mental health support was more limited than would usually be the case. Data revealed that while this was experienced as detrimental to some, others noted that the limited support that had been available had been very helpful during a challenging time (sub-theme: limited mental health support). The self-help materials and distraction packs (described above) appeared to have been helpful. Prisoners also described how the interactions with mental health professionals and substance misuse workers, though brief, were experienced as supportive and containing. However, many prisoners also highlighted that they had not been contacted by the mental health team or received any support, and many also reported that the lack of individual sessions and group interventions made their time in prison much more challenging.

"Not enough staff coming to visit or work with; such as not having groups ie Building Futures, used to have groups and we could attend NA, CA, wellbeing groups, meetings, which is not running at the moment."

"I not had an opportunity to speak to someone 1:1 in private. And again because of my diagnosis of personality disorder I thought I might have been given an opportunity to speak to a member of the team to see how I'm doing. I thought because I spent 6 years at the PDU at HMP Whitemoor undergoing treatment I might of seen more of them."

"I ain't seen mental health once since I have been here to speak about anything. It's a joke I have put in apps after apps for pencil and sharpener so I can draw and colouring pens or pencil but still nothing all this helps with my mood and anxiety a lot but yet not check up or help."

"I have felt supported throughout the situation. I think the MH team in HMP Pentonville are superb!"

"The only helpful thing what has been done is the healthcare has been great."

"I feel much better once I have had a meeting with the MH team and when somebody from Phoenix futures comes and sees me at my cell location and we discuss issues around my prison and community lifestyle."

"Working with my therapist 1:1, having someone to check in with weekly has been great! Thank you!"

"I know the help is there if needed. Just put an app in to see someone."

Prisoners clearly struggled with the loss of valuable occupation, in the form of work, education and exercise. They described finding the increased inactivity challenging, and particularly frustrating due to a lack of rational for why useful services had been stopped while mixing was allowed in other contexts (e.g., in the yard for association time). The mental health team were distributing distraction packs and mental health self-help materials over this time (described above), and the positive response to this limited intervention appears to highlight how even basic forms of occupation can become valuable during times of occupational deprivation (sub-theme: the lack of valued occupation). Many prisoners described how they otherwise spent the majority of their time watching television, or engaged more in unhelpful behaviours such as eating and smoking.

"Well I still don't understand why we can't go gym or education, I like the fact they are trying to keep us safe due to the whole pandemic, but I don't get why we aren't allowed to train, but they allow us to go out the yard to mingle, it's doing half the job, I didn't come to prison to mingle with other inmates, due to the facts we are all in here for different reasons."

"I found that nothing to do but watch TV."

"It's been stressful with less activities and time on association."

"Yes - was interesting material I really like the grounding exercise: the 54321 method 5-Look 4-Feel 3-Listen 2-Small 1-Taste. I will definitely use this inside and out will ask for distraction pack to see what it's like too."

"Constantly eating all my canteen cause being bored and smoking more from being bored and the price of these items ain't cheap when you buy it from the canteen which is very effective mentally also."

Table 6. Whether SARS-CoV-2 related changes and stressors impacted the mental health and wellbeing of staff; frequencies and percentages.

	No; n (%)	Yes; n (%)
Worrying about catching Covid-19 while at work	26 (37)	45 (63)
Worrying about infecting friends and family	12 (17)	59 (83)
Worrying about prisoners and how they are coping	12 (17)	59 (83)
Feeling frustrated that cannot help prisoners more	18 (25)	53 (75)
Difficulty coping with ongoing changes to the regime/timetable	15 (21)	56 (79)
Worrying about colleagues who are off sick	17 (24)	54 (76)
Difficulty coping with staff shortages	17 (24)	54 (76)

Table 7. Whether support and activity helped staff to cope; frequencies and percentages.

	No; n (%)	Yes; n (%)
Support from friends and family outside of work is helpful	5 (7)	66 (93)
Support from managers/supervisors in work	11 (15)	60 (85)
Support from colleagues in work	8 (11)	63 (89)
Exercise	25 (35)	46 (65)
Enjoying hobbies	18 (25)	53 (75)

3.2.6 Theme Six: Positive Impact

Perhaps surprisingly, given the overall picture described so far, a theme did emerge of positive consequences resulting from changes associated with the pandemic. Some prisoners described feeling safer as a result of everyone being locked up for the majority of the time, while others appreciated the greater predictability of the more limited regime and found themselves better able to structure their own time. The benefits of the in-cell phones, which were installed as a priority in response to the pandemic, were also highlighted by many prisoners.

"Since the lockdown it has been better with less stupid gang members on the wing running around."

"Feel much safer in smaller groups with prisoners that are well."

"I found that I have a better structure to cope with the day, such as yoga and Sudoku. I have had more time to review my plans, work on self-management and consider each others feelings/helpfulness."

"The timing of things is better we are nearly opened at the same time each day."

"Just the fact that I can contact family when I need to, not just when you could on association." (In reference to the in-cell phones.)"

3.3 Summary of Findings Regarding Prisoner Experience: Integrating Quantitative and Qualitative Findings

The patterns observed in the quantitative data were, in many places, supported by qualitative findings. Quantitative data showing that the majority of prisoners were negatively impacted by the changes associated with the pandemic was also seen in analysis of qualitative data. Furthermore, qualitative findings described ways in which prisoners experienced the negative impact of changes and restrictions. Themes drawn from qualitative data relating to spending more time locked in one's cell, with little valued

occupation and little mental health support, and worry about how the pandemic was being managed in the prison, appeared to be associated with increased anxiety; which is consistent with findings from correlational analysis and the predictive model for anxiety resulting from the feature analysis. The negative impact from loss of valued occupation, a salient theme emerging from the qualitative analysis, was also seen in the results of feature selection analysis showing that difficulty keeping busy in one's cell contributed to increased experience of negative memories. The results of the feature selection analysis identified lack of mental health support to be predictive of low mood and anxiety, a theme which also emerged from the qualitative data.

Overall there was a sense of convergence between quantitative and qualitative findings for prisoner experience. The qualitative data provided a depth of experience that was not evident in the quantitative findings, however; particularly when considering superordinate themes that emerged regarding isolation, neglect and feeling trapped. The frustration resulting from the lack of clear communication of guidelines, and the lack of rational for these guidelines, also emerged as an additional stressor, above and beyond findings from the quantitative data.

3.4 Quantitative Results from Staff Survey

Predictor and outcome frequencies are presented. Across all predictors, a greater proportion of staff members reported that changes and stressors related to SARS-CoV-2 impacted negatively on their mental health and wellbeing, relative to those that reported no impact (Table 6). A relatively greater proportion of staff reported that support from friends and family, colleagues, and management, and also engagement in exercise and hobbies, was helpful (Table 7). With regard to the impact of changes and stressors on mental health and wellbeing, outcomes were varied (Table 8). More staff reported a negative impact on low mood/

Table 8. The impact of SARS-CoV-2 related changes and stressors on mental health and behavioural outcomes among staff; frequencies and percentages.

	No; n (%)	Yes; n (%)
Feeling low in mood/depressed	32	39
Feeling anxious	28	43
Worrying	27	44
Feeling frustrated/angry	30	41
Sleeping too much/not enough	24	47
Poor appetite/binge eating	41	30
Drinking more	45	26
Smoking more	58	13

Table 9. Correlations (*r* values) between predictors (SARS-CoV-2 related changes and stressors; protective factors) and outcomes (mental health and wellbeing outcomes).

		Mental health and behavioural outcomes							
		Feeling low in mood/depressed	Feeling anxious	Worrying	Feeling frustrated/angry	Sleeping too much/not enough	Poor appetite/binge eating	Drinking more	Smoking more
SARS-CoV-2 Related Stressors	Worrying about catching Covid-19 while at work	0.2	**0.1 ***	**0.4 ****	0.2	**0.3 ***	0.1	0.03	0.1
	Worrying about infecting friends and family	**0.3 ***	0.2	0.2	0.1	**0.2 ***	0.1	0.1	0.1
	Worrying about prisoners and how they are coping	**0.3 ****	**0.4 ******	**0.3 ****	**0.5 ******	**0.4 ******	**0.4 ******	**0.3 ***	0.2
	Feeling frustrated that cannot help prisoners more	**0.3 ***	**0.5 ******	**0.5 ******	**0.3 ***	**0.3 ****	**0.3 ***	**0.2 ***	0.2
	Coping with ongoing changes to the regime/timetable	0.2	0.2	0.2	0.2	0.2	0.2	–0.1	–0.02
	Worrying about colleagues who are off sick	0.2	0.2	**0.2 ***	0.1	0.2	0.1	**0.3 ***	**0.3 ***
	Coping with staff shortages	0.2	0.02	0.2	0.1	0.2	0.2	0.2	**0.3 ***
Protective Factors	Support from friends and family outside of work	0.2	**0.3 ****	**0.4 ****	0.1	**0.3 ***	0.1	–0.02	0.1
	Support from managers/supervisors in work	0.2	0.2	0.2	0.03	0.02	0.1	**0.3 ***	0.1
	Support from colleagues in work	0.1	0.2	**0.3 ***	0.2	0.1	0.1	–0.01	0.1
	Exercise	–0.1	0.1	–0.03	0.03	0.03	–0.03	0.2	–0.2
	Enjoying hobbies	–0.01	0.1	0.1	0.03	0.1	–0.03	–0.03	–0.1

N.B. *significant to ≤0.05; **significant to ≤0.01; ***significant to ≤0.001.

depression, anxiety, worry, frustration/anger and sleeping difficulties that those who reported no impact. In contrast, relatively more staff reported experiencing no impact upon eating, alcohol use and smoking.

Pearson's correlation analysis showed a number of significant correlations between predictors and outcomes (Table 9). Of note are some highly statistically significant positive correlations of moderate to large effect size [43] between feeling anxious and worrying about prisoners and how they are coping ($r = 0.4$, $p \leq 0.001$), feeling anxious and feeling frustrated about not being able to help prisoners more ($r = 0.5$, $p \leq 0.001$); worrying more and feeling frustrated about not being able to help prisoners more ($r = 0.5$, $p \leq 0.001$); and finally, worrying about prisoners and how they are coping and both sleeping difficulties ($r = 0.4$, $p \leq 0.001$) and poor appetite/binge eating ($r = 0.4$, $p \leq 0.001$).

Predictors best associated with mental health and wellbeing outcomes are shown in Table 10. Notably, models predicting anxiety, worry, poor appetite/being eating, upsetting memories, drinking more alcohol and smoking more explained the greatest degree of variance, equivalent to a moderate effect size ($R^2 = 3$).

3.5 Qualitative Results from Staff Survey

Qualitative data from the staff survey were analysed thematically to further explore the experience of working in a prison during the pandemic. Three superordinate themes were identified, namely, Growth, the changing work environment, and Difficulty maintaining health and wellbeing. Within these superordinate themes, 10 sub-themes were identified (Table 11) and are discussed in more detail below.

3.5.1 Theme One: Growth

The theme of growth was clear throughout the staff survey data and appeared to be present in many aspects of people's lives. Many staff described feeling that they had experienced growth at work, in part as a consequence of pandemic related changes which offered opportunities to learn and adapt (sub-theme; Growth at work). In this context, the challenges that resulted from changes in the prison and staff shortages were experienced as positive, and encouraging of greater understanding and experience.

"Opportunity to challenge self working outside of usual role, learned more about how prison works as a whole."

"Had to adapt, learn and push new regimes."

"Getting a broader work experience by working outside of my usual area."

"Gave me opportunity to take on special tasks at work which supported me being promoted."

The sense of a more personal and individual experience of growth was also identified within the data, with descriptions indicating a feeling of the world slowing down and having less demands due to the restrictions that were in place. Staff described having more time to think and reflect, being forced to reconsider how they spent their personal time, and developing a new appreciation of what is valuable to them (sub-theme: personal growth).

"Got into yoga, spent more time with my family, cooked more."

"Looked at my wellbeing and life in a different manner."

"Exercised more and in better physical health."

"Yes, able to be at home more without rushing here and rushing there. Can be alone more."

"Time to reflect."

"Talking to people more, realising what is important."

A sense of staff finding increased value in their relationships with others also emerged from the data. Appreciation of the time spent with family and friends and a feeling of relationships growing and becoming closer was evident in descriptions of how staff were spending their personal time. Many also reflected more generally on the increasing connection that they had observed between people (sub-theme: growth in relationships).

"Taking time to slow down and reconnect with my family."

"Reconnecting with friends and neighbours, appreciating the countryside and outside space."

"People seem to be becoming closer."

"Becoming closer to friends."

"Appreciating what I have i.e., family/friends/colleagues/health."

3.5.2 Theme Two: The Changing Work Environment

Staff responses described ongoing changes to procedures and protocols, ever-changing expectations and demands, and the consequences of these changes. The impact of this was evident on many levels and four sub-themes were identified within this superordinate theme: (i) Increased pressure, (ii) Relational difficulties between staff, (iii) Good team work and camaraderie, and (iv) Difficulties staying safe.

A combination of increased and changing workloads with reduced staffing resulted in staff feeling stressed and overwhelmed. This appeared to be exacerbated by a lack of clarity in guidance and communication, and staff also betrayed a sense of not being considered, consulted or appreciated in their thoughts about what might be helpful going forwards. There was a sense of these challenges having a negative impact on wellbeing through increased anxiety and feeling unsafe and ill-considered (sub-theme: increased pressure).

"Additional workloads, while relatively new to my role, led to anxiety and feelings of stress and being 'overwhelmed'"

"Continuous changes to regime and pressure to do more with less."

Table 10. Predictive models for staff mental health and wellbeing outcomes identified through feature selection and showing the amount of variation predicted by the model (R^2).

Mental health and wellbeing outcomes	SARS-CoV-2 related changes and stressors and protective factors that contribute to predictive models	R^2
Low mood	1. Worry about prisoners and how they are coping. 2. Worry about infecting friends and family. 3. Feeling frustrated that cannot help prisoners more.	0.2
Anxiety	1. Worry about prisoners and how they are coping. 2. Feeling frustrated that cannot help prisoners more. 3. Finding support from friends and family helpful.	0.3
Worry	1. Feeling frustrated that cannot help prisoners more. 2. Worry about prisoners and how they are coping. 3. Worry about catching the virus. 4. Finding support from friends and family helpful.	0.3
Frustration	1. Worry about prisoners and how they are coping. 2. Difficulty coping with ongoing changes to the regime/timetable. 3. Feeling frustrated that cannot help prisoners more. 4. Finding support from managers helpful. 5. Finding engagement in hobbies helpful. 6. Difficulty coping with staff shortages. 7. Worry about colleagues that are off sick.	0.2
Sleeping too much/not enough	1. Worry about prisoners and how they are coping. 2. Feeling frustrated that cannot help prisoners more. 3. Finding support from friends and family helpful. 4. Worry about catching the virus. 5. Worry about infecting friends and family.	0.2
Eating too much or too little	1. Worry about prisoners and how they are coping. 2. Difficulty coping with ongoing changes to the regime/timetable. 3. Feeling frustrated that cannot help prisoners more.	0.3
Drinking more	1. Worry about colleagues that are off sick. 2. Finding support from managers helpful. 3. Difficulty coping with ongoing changes to the regime/timetable. 4. Finding exercise helpful. 5. Worry about prisoners and how they are coping. 6. Feeling frustrated that cannot help prisoners more. 7. Difficulty coping with staff shortages.	0.3
Smoking more	1. Finding engaging in hobbies helpful. 2. Difficulty coping with staff shortages. 3. Worry about colleagues that are off sick. 4. Worry about prisoners and how they are coping. 5. Worry about catching the virus. 6. Finding exercise helpful. 7. Feeling frustrated that cannot help prisoners more. 8. Worry about infecting friends and family. 9. Difficulty coping with ongoing changes to the regime/timetable. 10. Finding support from friends and family helpful.	0.3

"Staff shortages, increased workload, rapid changes to job constantly."

"More and clearer guidance and presence from senior management."

"More communication from managers re: plans/changes."

"Maybe weekly meetings where managers ask about concerns specifically."

"Lack of resources and questionable decision making without real consultation."

Table 11. Superordinate themes, sub-themes, and codes derived from staff responses.

Superordinate Themes	Sub-themes	Codes derived from data
Growth	Growth at work	Being forced to adapt and learn. Opportunities for greater understanding and experience. Developing into new roles.
	Personal growth	Time to slow down and reflect. Reconsidering how personal time is spent.
	Growth in relationships	Spending more time with family. Reconnecting with people. Increased appreciation of relationships.
Changing work environment	Increased pressure	Increased workload. Constant changes and new tasks. Reduced staffing. Need for clearer guidance and communication. Desire for consultation and consideration of staff views when planning changes.
	Relational difficulties between staff	Varying attitudes regarding safety precautions. Friction between organisations (e.g., prison and NHS) due to differing guidance and protocols. Deterioration in relationships and team working.
	Good teamwork and camaraderie	Improved relationships with colleagues. Appreciation of good support from management and colleagues. Good inter-department working (e.g., prison and NHS). Good communication and leadership.
	Difficulties staying safe	Lack of personal protective equipment (PPE). Difficulty social distancing. Lack of access to testing. Lack of cleanliness.
Difficulty maintaining health and wellbeing	Mental and physical health	Lack of mental health support for staff. Need for more activity and mental health support for prisoners. Lack of consideration of staff wellbeing. Reduced engagement in exercise.
	Support through social interaction	Lack of access to social networks for support and relaxation. Desire for more peer support through talking. Desire for more reflective practice and supervision. Desire for space to stop and be mindful.
	Loss	Death and bereavement. Loss of normality. Loss of usual activities and hobbies.

"It would be nice to be appreciated more as people who work in the prison."

"Take our wellbeing into consideration; be rewarded for being overworked; put our safety first before thinking about work targets."

For many, the changing work environment contributed to friction with colleagues and poorer working relationships. This mainly appeared to be due to differing views on safety protocols, and also the variations in guidance provided to different organisations, for example, differing guidance provided to staff working for Her Majesty's Prison and Probation Services (HMPPS), and staff working for the NHS. It appears as though this may have been intensified by the increased pressure caused by high workloads and constant changes, the uncertainty caused by conflicting and confusing communication, and the fear of catching the virus (sub-theme: relational difficulties between staff).

"Some division between staff with anxieties and staff who don't socially distance."

"The relationship with colleagues has gone/disappeared, there isn't that camaraderie which existed before."

"The prison understanding the guidance for NHS employees."

"More understanding between prison and healthcare."

"The hardest part of this job is when your colleagues do something you completely disagree with. It's a culture thing."

In contrast to the above sub-theme, a theme also emerged from the data which reflected positive relationships with colleagues, good team working between different professions and departments, and a feeling of being well supported by colleagues and managers in the context of challenging times. Those who felt this way described experiences in a very positive light (sub-theme: good teamwork and camaraderie).

"The support and information received has been exemplary."

"I had the best support from my managers."

"Have a great manager and proud of the staff on my wing."

"Felt very supported during first wave. Manager allowed flexi working and working from home to support childcare."

"The inter department team work in this prison is superb."

"Prison and healthcare (after minor teething problems) have worked very well, brought team closer together."

"My colleagues are troopers and we are bonded by blood sweat and tears."

"I think Pentonville has coped well, including the prisoners who deserve much credit."

"The Governor is doing an amazing job to prevent the spread of the virus."

The impact of the changing environment with regard to precautions to prevent virus spread was keenly felt by staff who noted how challenging it was to follow guidance regarding keeping safe, and were clearly concerned about the consequences of this. There were many references to the limited PPE, difficulty social distancing, differences in attitudes to the precautions, and also many suggestions for what would be helpful going forward. This highlighted how anxiety provoking it was for staff to be working onsite during a period when most of society was being advised to work from home to keep themselves safe (sub-theme: difficulties staying safe).

"Perspex sheets to divide the room as we can't space out very much."

"People taking the pandemic seriously."

"Not being able to social distance constantly because it would make it physically impossible to do the job."

"More access to PPE/cleaning products; a cleaner office!"

"Better hand cleansing materials, not running out of soap, hand towels."

"Being tested, and more support if off."

"My family is shielding and my 80 year old grandmother lives with us so travelling on the trains and going home is really hard."

3.5.3 Difficulty Maintaining Health and Wellbeing

A clear theme that emerged from the data was how hard staff were finding it to stay physically and mentally well while working during the pandemic in such a challenging environment. In addition to this, concerns about how difficult it must be for the prisoners to maintain good wellbeing was also highlighted by many staff. Three sub-themes were identified within this superordinate theme: (i) Maintaining mental and physical health; (ii) Support through social interaction, and (iii) Loss.

Staff described a desire for more support with their mental health during this particularly challenging time. There was a clear sense of staff feeling that not enough was being done to support mental health for them or for the prisoners. Further to this, there was a feeling that staff wellbeing was being ill-considered. The reduction in physical activity and exercise was also referenced by staff and it is possible that this was felt in relation to both mental and physical health. During this period the gym in the prison, which many staff would usually use over a lunch time, was closed and so were gyms in the community (sub-theme: maintaining mental and physical health).

"Not enough is done to support mental health issues during this time. Workshops would be great area."

"Prisoners need much better mental health support."

"Prison could do more to safely reintroduce activities/education for prisoners."

"Better mental health support, better sickness policies."

"Take our wellbeing into consideration; be rewarded for being overworked; put our safety first before thinking about work targets."

"I have not had the time to exercise or pursue hobbies in 2020."

Staff described finding it challenging that they were unable to use their social networks during this period of increased stress, and also described wanting increased opportunities for Support through social interaction (sub-theme two). Some staff noted that the simple process of being asked about how they were coping through completion of the survey was helpful and that they were thankful for the opportunity while others expressed a desire for increased supervision and reflective practice. This could be indicative of a need for more time to stop and reflect in response to the increased demands, ongoing changes, opportunities for friction, and increased anxiety that has been described in other themes.

"Just always coming to work and not being able to blow off steam with friends."

"No social events."

"Not being able to connect with friends."

"More platforms to discuss feelings."

"More reflective practice/supervision."

"This was good to do, thank you!"

"Thank you for checking on my welfare."

A final sub-theme of Loss was found to emerge from the data. This theme touched on many factors that crossed-over with other super-ordinate and sub-themes that were identified, but also felt significant and present enough to include separately. Staff described events and differences in life that represented the concrete loss of people and activities, but also a more abstract sense of loss which tapped into how the pandemic had interrupted the normality of life. In some cases, simple and seemingly less important losses appeared to be experienced significantly in terms of their impact on maintaining good health and wellbeing. Overall, through this theme, there resonated a collective appreciation of prior permanence, the loss of which was unnerving and frustrating.

"Deaths of 2 staff members."

"Loss of work and income; no furlough."

"Not being able to move house."

"Annoyed at not being able to watch football."

"Bereavement."

"Things will never be the same again."

3.6 Summary of Findings Regarding Staff Experience: Integrating Quantitative and Qualitative Findings

Quantitative data indicating that the majority of staff were negatively impacted by the changes and stressors associated with working during the pandemic were supported by qualitative data. Feature analysis found that concerns about how the prisoners were coping and frustration resulting from being unable to help them more contributed to feelings of worry and anxiety, as did fear of catching the virus. This was consistent with findings from correlational analysis and was mirrored in themes identified in the qualitative analysis. Themes identified regarding the changing work environment, in particular the stress of dealing with staff shortages and ongoing changes to the regime, were also consistent with feature selection analysis which indicated that these aspects of staff experience was predictive of unhealthy outcomes such as smoking and drinking more, and also binge eating/having no appetite.

Correlational analysis highlighted positive associations between experiencing higher worry and anxiety, and findings support from friends and family helpful. This was consistent with the results of predictive models resulting from feature selection analysis. Though not specifically framed as such in the findings from the qualitative analysis, the theme of growth in relationships may be reflective of this support being appreciated.

4. Discussion

The impact of the pandemic and associated changes, on prisoners and staff at this urban UK prison, has clearly

been significant. Quantitative data showed that the majority of prisoners and staff found changes, restrictions and stressors associated with the pandemic difficult to cope with and that they experienced a negative impact on their mental health and wellbeing as a result. This was mirrored in themes identified through qualitative analysis of written responses. This overall finding was consistent with research investigating the impact of the pandemic on the general population [1–3], and confirms the hypothesised importance of considering the mental health of prisoners and prison staff during these unprecedented times; a concern which has previously been highlighted by many clinicians and academics [11,28–31].

With regard to prisoners specifically, quantitative data showed that variation in low mood and anxiety, and in experiencing more upsetting memories and feeling less safe, were explained by the predictors measured to a moderate degree (i.e., with a medium effect size). These outcomes might be considered to represent symptoms of mood disorders and trauma, both of which are highly prevalent within the prison population [14–16]. The increased time locked in one's cell and difficulty keeping busy while locked up, reduced access to education, work, and gym, and limited access to mental health support, all appeared to contribute. Themes which emerged from qualitative analysis of prisoners' written responses were consistent with this, and went further to indicate that increased time to think and reduced social interaction were potential mechanisms through which mental health was impacted.

For staff, variation in anxiety and worry was explained to a moderate degree, mainly by predictors associated with concerns about the prisoners' welfare and concerns about catching the virus. Additionally, findings suggested that experiencing anxiety and worry was associated with feeling that support from friends and family helpful. Variation in smoking, drinking, and loss of appetite/binge drinking was also moderately explained in the quantitative analysis. Again, concerns about catching the virus and the welfare of prisoners were associated with these outcomes, but additionally, difficulty coping with staff shortages and changes at work were also predictive of this unhealthy coping behaviour. These findings were mirrored in findings of qualitative analysis.

Qualitative analysis was effective at providing a more in-depth understanding of the experience of both prisoners and staff. Particularly striking within prisoner responses were themes of feeling isolated, trapped, forgotten, and neglected, to a degree that felt like one's basic human rights were not being observed and respected. The fact that staff's concerns about prisoner welfare and frustrations about not being able to help them more were both associated with negative mental health outcomes might be indicative of staff agreement with this. It appears as though prisoners and staff were both negatively impacted by experiencing the conditions that had to be imposed upon prisoners to prevent virus

spread, and in line with theories about staff experiencing psychological distress and moral injury as a result of not being able to support prisoners effectively [28].

There was a noticeable difference between prisoner and staff experiences that resulted from staff being able to leave the prison. Qualitative findings pertaining to staff gave a sense of a personal experience that was very separate to the experience of being in the prison. This was most salient in the theme of growth, which described narratives of engaging in new hobbies and activities, and an intensifying of relationships. For prisoners, the absence of both of these was striking and noted to deeply impact mental health and wellbeing. Their entire experience was related to the prison, and when this is considered it is understandable that a sense of being trapped and isolated permeated through the data. Prisoners described a feeling of being alone, despite being in cramped and crowded conditions with almost a thousand other prisoners going through a similar experience. This makes sense within the context of the limited social interaction with staff and other prisoners, and the lack of face to face contact with family and friends through visits. Their experiences betrayed a sense of being lost among many faceless and nameless individuals who might not be noticed or responded to if they were in crisis. Staff also described a similar experience of being neglected and ill-considered with regard to work, but there was a definite sense of staff having a more individual and personal experience when outside of work which was protective against this.

4.1 Implications

The implications of the findings from this research are significant in the context of the ongoing impact of the pandemic, and also with regard to the long term consequences on the mental health of both staff and prisoners. For men in this prison, the time locked in one's cell when in isolation, or during periods of outbreak, is particularly difficult due to having to share with another prisoner. This is not the case for young offenders or female prisoners and the high prevalence of trauma within this population can make being in close quarters with another person for long periods of time distressing and re-traumatising. Female estates and young offender establishments are also typically better resourced with regard to mental health provision, making it easier to provide support. It is possible that these factors, combined with other considerations which might make men particularly vulnerable [32–34], could result in particularly poor, or perhaps differing outcomes for male prisoners in the long term. Further research is required to consider the impact on female and young offenders to understand the impact of gender, and furthermore ethnicity, on coping and consequences.

Our findings indicate that increased provision of mental health support for prisoners and staff would likely be of great benefit, both directly and indirectly. It is very possible that if prisoners are supported better that this would not only result in better mental health outcomes for them, but also, staff may well feel less concerned about the welfare of prisoners, and according to results of our quantitative analysis, this could result in staff feeling less worried and anxious. Qualitative analysis also revealed that staff felt the need for more space to talk to peers and discuss the emotional impact of the pandemic, perhaps through increased supervision or reflective practice.

Since the time that data was gathered, the provision of PPE and the availability of testing has increased dramatically for both prisoners and staff in prisons. One might assume that this has had a positive impact on the mental health and wellbeing of all concerned, but further research is required to determine whether this is indeed the case.

4.2 Limitations

There are numerous limitations inherent within the data collection for this study, in part due to a measure being specifically designed, and its main purpose being for evaluation and development of the service. It must be noted that findings are not generalisable to other prison estates, even if there may be findings that would be worth considering for service provision and development more generally. Our findings do indicate that further research, not specifically designed to evaluate a particular establishment, and ideally longitudinal in nature, is warranted. Findings are also limited due to data collection all being in written form. Prisoners unable to read and write, or those for whom English is not their first language, may not have been able to participate. At the time that data was collected it was not possible to conduct interview or focus groups due to the precautions in place, but this would certainly be a useful avenue of research for the future and would provide a richer dataset allowing for a more in-depth qualitative analysis. The use of validated questionnaires is also recommended so that comparison across studies is possible.

5. Conclusions

Male prisoners, and the staff who support them, are already vulnerable populations who exist in challenging conditions. The added pressures associated with the pandemic are likely pushing an already stretched system into a state of even higher risk. Negative long term consequences of the direct and vicarious trauma being experienced at this time are inevitable, and a broader impact on society is highly likely. Further research, but also further investment, into this incredibly deprived and ill-considered area of our society seems, from these initial findings, to be essential. It is likely that we will be observing the impact of this period, and the limited mental health support in place, for some time through the mechanism of intergenerational trauma. It is vital that further research and monitoring of the situation takes place and is fed into future policy and plans for provision.

Author Contributions

Ethics Approval and Consent to Participate

Acknowledgment

Funding

Conflict of Interest

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