IMPACT OF COVID-19 ON DELIVERY AND RECEIPT OF PRISON HEALTHCARE IN ENGLAND AND IMPLICATIONS FOR HEALTH INEQUALITIES: A MIXED METHODS STUDY

Study Protocol

Impact-C19P

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STUDY OVERVIEW	
Title	**Impact of covid-19 on delivery and receipt of prison healthcare in the England and implications for health inequalities: a mixed methods study**
Start date	24 March 2021
Duration	12 months
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Ethics approval	University of York, Health Sciences' Research Governance Committee HSRGC/2021/448/F
Access	National Research Committee, Ministry of Justice (Ref: 2021-034)
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Registration	researchregistry6885

Scientific/technical summary

We will produce robust evidence on the impact of Covid-19 on the delivery and receipt of prison healthcare in the UK, alongside an understanding of whether health inequalities have widened due to the pandemic. This will inform immediate clinical practice, commissioning and policy decisions at a regional and national level, in addition to providing planning UK wide recommendations for the recovery period.

Our 12-month, mixed-methods study comprises three stages. First, we will undertake a scoping review of the literature to identify what is known already about Covid-19 and prison healthcare. Second, in a qualitative study we will interview 45 participants (people who have been in prison, prison healthcare staff and prison decision-makers) to explore their observations and beliefs about how and in what ways the pandemic has impacted on prison healthcare. Third, we will conduct an interrupted time series analysis to assess and compare change in recorded prison healthcare activity before, during and potentially after Covid-19. This analysis will utilise anonymised healthcare records from 13 prisons in England. The findings from all three stages will be formally integrated in a workshop.

We will produce outputs for prison healthcare decision makers, clinicians, people currently or previously in prison and academics. Our well-connected team and existing prison healthcare research infrastructure means we can produce timely recommendations and directly influence national policy and practice as our findings emerge.

Plain English Summary

People from ethnic minorities, living in poverty or with long-term health conditions are more heavily impacted by Covid-19. Many people in prison share these characteristics. People in prison often have worse health than the general population. Healthcare professionals working in prisons and prisoners themselves have stated that since the Covid-19 pandemic began, healthcare in prisons has changed significantly. The changes have been both positive and negative. For instance, there is a much greater use of telephone or video medical appointments and there have been beneficial changes to the ways in which medications can be distributed to, and held by, people in prison. A negative change is that referrals to acute hospital care outside the prison have become for emergency treatment only, meaning that non-emergency symptoms may not be investigated in some circumstances. There has been

some research on the vulnerability of people in prison in terms of their greater risk of being infected with Covid-19 and also about the impact of Covid-19 on mental health. But there is virtually no research about the impact of Covid-19 on day-to-day prison healthcare such as screening for serious conditions or managing long-term health problems. And we do not know whether this has resulted in the health of people in prison getting worse than the health of people in the community. Because of all the rapid changes to prison healthcare due to Covid-19, the people who commission and provide healthcare services urgently need to understand what has happened. If the health of people in prison has gotten worse, academics and prison healthcare researchers will need to understand the exact reasons for this.

Our 12-month study has three stages that each take a different approach:

First, we will examine existing publications and online material to identify what is known already about Covid-19 and prison healthcare. We will look for previous academic research but also blogs, new reports, policy documents etc.

Second, we will interview people who have been in prison, prison healthcare staff and prison decision-makers to explore their observations and beliefs about how and in what ways the pandemic has affected prison healthcare. We will speak to around 45 people in total. We will talk to people mostly over the phone or a video call. The researcher will ask different questions depending on which group of participants they are talking to but will cover the following topics: access to healthcare, quality of care, testing, medication, use of technology (e.g. telephone, video etc), relationships and communication. The researcher will speak to people who have been recently released from prison rather than people who are still in prison. This is because the prison service is currently under a lot of pressure and we can gain people's thoughts about the topic without needing to go into prisons.

Third, we will conduct a statistical analysis of anonymous healthcare records from 13 prisons in the North of England. We will examine these records from before, during and (potentially) after Covid-19 to see how prison healthcare activity may have changed. We will look specifically at the following kinds of healthcare activity: the number of referrals to hospital made by prison doctors; the number of GP and nurse consultations in each prison;

rates of hepatitis C, hepatitis B, and HIV testing; number of mental health screenings and assessments; rates of screening for bowel, breast and cervical cancer.

Towards the end of the study, the research team will discuss the findings from all three stages in a workshop to help us to make sense of what they mean when looked at together as a whole.

Background & rationale

People from groups disproportionately impacted by Covid-19 (minority ethnicities, chronic health conditions, deprived backgrounds) are overrepresented in the prison population which has a higher disease burden and proportion of complex health needs than the general population. Emerging evidence from frontline clinicians and people living and working in the UK prisons suggests that since the onset of Covid, prison healthcare has changed irrevocably. Healthcare services have been rapidly reconfigured, demonstrably disadvantaging some patients (e.g. referrals to acute care for emergencies only), and conversely providing opportunities for long-term benefits for patients and staff (e.g. rapid implementation of tele/video-consulting, increased use of 'in-possession' medication).

Recently published statements have focused on the prison population's vulnerability to contracting Covid-19, the preparedness of the prison estate for a pandemic, and proposed/actual practical responses (e.g. temporary cells, early release). The impact of Covid-19 on mental and physical healthcare in prison has been acknowledged, but virtually nothing is known about how it has impacted the delivery and receipt of 'everyday' prison healthcare, particularly routine primary care and chronic condition management. Moreover, virtually nothing is known about how this may widen existing health inequalities.

We urgently need to understand the impact of this reconfiguration to proactively inform policy, commissioning, clinical practice and recovery planning that may mediate potential widening of existing health inequalities.

Research questions

1. What impact has Covid-19 had on the provision, delivery and receipt of prison healthcare in the UK since March 2020?

2. How and in what ways has prison healthcare changed and/or been reconfigured in response to Covid-19 (at micro, meso and macro levels)?

3. Has Covid-19 exacerbated known health inequalities in the prison population? If so, how and in what ways?

4. What can be learned from the impact of Covid-19 (1-3 above) and how can this influence the commissioning and delivery of prison healthcare in the future?

Study objectives

1. To understand the impact of Covid-19 on the provision, delivery and receipt of prison healthcare in the UK since March 2020.

2. To capture how and in what ways prison healthcare has changed and/or been reconfigured in response to Covid-19 (at micro, meso and macro levels).

3. To assess whether the pandemic has exacerbated known health inequalities in the prison population and to understand how and in what ways.

4. To define what can be learned broadly from the impact of Covid-19 and how this may influence the commissioning and delivery of prison healthcare in the future.

Method

Design

A 12-month mixed methods study with three interlinked research stages (see project timetable). Topics of enquiry have been generated from rapid consultation specifically undertaken to inform this application and we consulted with prison clinicians, commissioners, researchers and people with lived experience of being in prison.

Prison access

To avoid burdening the prison service in a lockdown situation, our proposed study design involves conducting qualitative interviews with people who have been in prison and prison healthcare staff in the community via phone/video (not in prison) and analysing routinely collected quantitative data held by Spectrum CIC (at their headquarters in Wakefield). The research team believe it is unethical for research staff to be entering the prison estate during

the pandemic to recruit or interview participants face-to-face when we can collect the data we need via remote digital means.

Stage 1 – Scoping review and environmental scan

Objective

Identify early insights into the national impact of Covid-19 on prison healthcare.

Methods

We will conduct a scoping review comprising two searches. The first search will be designed to capture publications including editorials, commentaries and empirical academic research studies. The following databases will be searched: Medline, Cinahl Plus, Scopus, Web of Science and Psych INFO. We anticipate that there will be a low volume of published peer reviewed research so a second search will focus on 'grey literature' and will employ Environmental Scan search methodology. We will search charity/government/professional body websites and blog websites aiming to identify position statements, news reports, strategic documents and policies, as well as 'real-time' experiences, views and reactions from people who have been in prison and their families. Both searches will cover the period 1st March 2020 onwards. Canvin will design and conduct the searches (with in-house information specialist support: no cost) and screen the results. Hearty and Canvin will conduct a descriptive thematic analysis of pertinent documents. The findings: a) will inform the topic guide for the Stage 2 qualitative interviews, and b) may generate additional areas of assessment for the Stage 3 interrupted time series analysis.

Stage 2 – Qualitative study

Objective

Explore perceptions of the impact of Covid-19 on the provision, delivery and receipt of prison healthcare in the UK and examine its potential contribution to health inequalities.

Methods

In-depth qualitative interviews with a purposive sample of ~45 participants across the North of England who have: 1) received healthcare in a prison since March 2020; 2) delivered healthcare in a prison since March 2020; 3) commissioners, policymakers and senior

management. We will seek to vary participants by gender, ethnicity, prison security category and length of sentence, ensuring inclusion of females and males and their differing health needs. We will use opportunistic sampling initially, and then snowball sampling. We will conduct all interviews by phone or video to comply with current restrictions. We will record interviews (with consent) and transcribe them verbatim. We will not interview people currently in prison, instead, we will recruit these participants via non-statutory services and through Harriott's (Prison Reform Trust) and Pearce's (project partner) networks. The topic guide will be tailored for each participant group and will cover:

• Being in prison during Covid; receiving physical and mental healthcare including perceptions of access, quality, testing, medication, long-term condition management; Covid testing and quarantining; maternal health and pregnancy; what is beneficial, poor or needs improvement (people previously in prison)

• Changes to clinical practice, medication, service delivery, use of technologies, teamworking, professional roles, hierarchies; Covid testing and quarantining; maternal health and pregnancy; relationships, liaison with acute/community care; patient safety and quality of care under Covid (healthcare staff)

• Changes to local and national policy, contracting, commissioning, assessments, monitoring; strategic responses; lessons learned; resilience implications and recommendations (policy, management and commissioning).

Analysis will serve two purposes. First, an inductive thematic analysis will address research questions 1, 2 and 4. Second, a deductive analysis coded against the categories in the King's Fund 'Inequalities of what?' framework (health status, access to care, quality and experience of care, behavioural risks to health, wider determinants of health) to answer research question 3.

Stage 3 – Interrupted time series analysis

Objective

Assess and compare changes in prison healthcare activity before, during and potentially after Covid-19. Method and analysis: An interrupted time series (ITS) analysis based on anonymised prison healthcare records from 13 prisons in the North of England.

Data access & extraction

Spectrum CIC are a third sector provider of prison healthcare and are the data controller for these prison healthcare records. The Clinical Research Director at Spectrum CIC (Wright) is a co-investigator on this application. Spectrum CIC and University of Manchester (Farragher) already have a signed data sharing agreement for the export of anonymised data from healthcare records for our ongoing prison healthcare research project (NIHR HS&DR Ref 17/05/26). We would replicate this agreement for the proposed study.

Hearty at Spectrum CIC will develop the searches and extract the data from SystmOne (clinical computer system) under the supervision of Wright and anonymise it before its secure transfer to Farragher for analysis. Hearty already has all the relevant permissions and security clearance in place to undertake this work. We have already conducted a feasibility exercise for the purposes of this grant application, to exclude activity for which data is not being routinely collected (e.g. Covid testing is not being routinely coded by staff). We will investigate the following outcomes:

- Referrals made by a prison clinician to hospital or community care, including 'two-week wait' (suspected cancer) referrals
- GP consultations and nurse consultations
- Proportion of second reception screens completed within seven days of reception
- Blood borne virus testing, referral and treatment for Hepatitis B, Hepatitis C and HIV
- Mental health screening and assessments
- Prescribing rates for antidepressants and antipsychotic medications
- Substance use prescribing e.g. methadone and buprenorphine
- Risk assessments and uptake for in-possession medications (excluding controlled drugs)
- Screening (e.g. breast, bowel, cervical) and routine vaccination uptake

Analysis

Provided at an individual level, patient (e.g. length of sentence, age of prisoner) and prison-specific characteristics (e.g. prison category) will be included as potential confounders, and based on our current NIHR funded work exploring variation in prison healthcare quality indicators. Outcomes will be presented as rates per month per prison

with the appropriate denominator measured as person-months at risk. For the ITS analysis, Covid-19 is considered the 'intervention'/interruption phase (currently March 2020-February 2021); 24 months prior to March 2020 will be the 'pre-intervention phase; and the 'post-intervention' phase will be March 2021-July 2021. Phase timing will be reviewed over the study period (e.g. occurrence of waves and vaccine implementation will impact on post-intervention stage timing), but pre-specified before the data is extracted and analysed (July/ August 2021). Mixed effects models will estimate and compare the change in outcomes over time in each of the phases, while accounting for variability between prisons, correlation within prisons over time and seasonality. The type of models will depend on the outcome and its changes over time (e.g. linear, Poisson or negative binomial) and model assessments (e.g. residual assessment and comparison of model fit statistics).

Integration

Towards the end of the study all co-investigators and project partners will participate in a workshop to integrate the findings from all three stages. A short internal report will be prepared based on the findings of each stage and we will use a 'triangulation protocol' [13] which places the analytic focus on convergence, complementarity and contradiction to generate metafindings from all three stages.

Stakeholder and public/patient involvement

We will assemble an expert advisory panel comprising a range of stakeholders with professional, lived, and subject expertise (e.g. telehealth, ethnicity, gender, mental health). We will invite members who can support the dissemination and impact of our findings. The panel will meet three times to contribute to: protocol refinement (post-funding); analysis and interpretation; and identifying key messages and dissemination. Harriott is a Co-I with lived experience of imprisonment and has an integral role in developing and delivering this study, specifically the PPI aspects. Harriott and Pearce (project partner), will draw on their own lived experience and that of the people in their networks to ensure that the perspectives and priorities of people in prison are incorporated at all stages. A small group of 'experts by experience' will be convened by Harriott, Pearce and Canvin and consulted throughout the study to shape the research direction, provide advice and guidance to the research team and act as 'critical friends' at each stage including dissemination.

Dissemination

We believe there to be three primary beneficiaries of the knowledge and outputs generated from this research study.

Prison-specific beneficiaries

This audience comprises prison governors, Health and Justice at Public Health England, Health and Justice commissioners, prison healthcare providers and workers, probation service. We will write short policy briefings and make recommendations for immediate service improvement which will be considered at national level committees and meetings to which our co-investigators and project partners contribute. We are aware that national level decision makers in prison healthcare policy and commissioning are waiting on the findings from this study to inform and enable a national recovery strategy, as there is currently no evidence to guide decision making on this. To this end, we have identified existing mechanisms that we will use to keep our co-investigators' and partners' organisations informed of emerging findings with a view to achieving immediate impact: internal comms bulletins and newsletters and globally via https://wephren.tghn.org/.

People currently or previously in prison and their families/friends

For this audience, we will feed back findings to the Prison Reform Trust at an executive level to inform national policy and service provision. We will produce a magazine-style piece for a publication such as Inside Time (which has a wide readership among people currently and previously in prisons) and brief updates for inclusion in the Prison Reform Trust Prisoner Policy Network newsletter. We will co-produce an episode of The Secret Life of Prisons podcast with the Prison Radio Association.

For our third audience, our expansive multi-disciplinary approach means that we anticipate at least two but possibly three academic journal publications and at least two presentations at UK conferences with possibility of an international conference, if appropriate. To spread and maximise the impact of our research findings we will deliberately target diverse academic meetings/ conferences including clinical / practice oriented, social science, public health, criminology e.g. Society of Academic Primary Care, BSA Medical Sociology, Society for Social Medicine, British Society of Criminology. As a team, we both individually and

collectively bring together various disciplinary backgrounds, theoretical approaches and methodologies: prison healthcare, criminal justice, primary care, health services research, ethics, health inequalities, public health, qualitative methodology and epidemiological approaches. We are already linked into multiple national (PORSCHE and OHRN) and international (WEPHREN) prison healthcare research networks. Laura Sheard (Principal Investigator) and Krysia Canvin (co-applicant) sitting on the Steering Committees for two major NIHR funded prison-health projects (PROSPECT and Avoidable Harms).

Academics and researchers across a broad range of disciplines

We have an established network of academics working in various disciplines, including but not limited to: prison healthcare research but also prison research more broadly, health inequalities, sociology, psychology, criminal justice, health services research, public health, health policy. We regularly engage with this network via our personal and current project Twitter accounts. We will convene a multi-disciplinary advisory panel for the study that will facilitate two-way exchange of knowledge and expertise, maximise synergistic collaboration and cross-pollination. We will also invite members from other UKRI-funded research studies which focus on the impact of COVID-19 on wellbeing and harm in prison (ES/W000156/1), on coping and mental health in prison (ES/V01708X/1) and on probation's work to improve the health of people under its supervision (ES/V015982/1). Aside from very recent editorials and blog posts, there is no empirical evidence about how Covid has impacted on the delivery or receipt of prison healthcare and we therefore believe that our project will have a demonstrable impact on the academic literature in this field.

Timetable

TASK		Pre award	PROJECT MONTHS												Post award
			1	2	3	4	5	6	7	8	9	10	11	12	
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Set-up	Submit full proposal														
	Obtain University ethical approval														
	Recruit researcher														
	Collaboration agreement														
	Obtain signed data sharing agreement (for Stage 3)														
	Obtain HMPPS exemption certificate														
	Probation approval														
PPI	Stakeholder involvement														
Stage 1	Scoping review														
	Environmental scan														
Stage 2	Qualitative interview set-up														
	Qualitative interview fieldwork														
	Qualitative interview analysis														
Stage 3	Data extraction														
	Statistical analysis														
Integration	Integration preparation and workshop														
Writing-up & dissemination	Circulate scoping review & environmental scan														
	Write-up of all stages														
	Final report for UKRI														
	Non-academic outputs														
	Journal publications														
	Report to NRC														