

PROCESS AND SYSTEMS Mitigating inequalities at a large COVID-19 vaccination centre

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ABSTRACT

Introduction

The COVID-19 vaccination service is a key component in the UK approach to reducing disease morbidity and mortality. Groups within the population at increased risk of severe outcomes from COVID-19 overlap with groups that are less likely to take up the offer of vaccination. This article outlines some learning from approaches within a large vaccination centre in the UK to reduce inequalities.

Solution

Continuous quality improvement processes were used to operationalise the mitigations to inequalities with vaccination uptake that were identified by a systematic equality impact assessment framework and continuous service feedback.

Outcome

Quality improvement processes and community engagement enabled tailored mitigations to vaccination uptake. Engagement with community ambassadors strengthened community relationships and the co-creation of bespoke sessions encouraged vaccination uptake within specific groups.

Conclusion

Recommendations for strengthening approaches to inequality reduction include having a systematic framework for assessment and mitigation of inequalities, embedding quality improvement, identifying resources, and taking a collaborative and co-design approach to services with underserved groups.

KEYWORDS: COVID-19, vaccination, inequalities, quality improvement

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Introduction

The UK COVID-19 vaccination programme aims to reduce disease morbidity and mortality by maximising vaccine uptake across the population within a national framework.¹ Large vaccination centres (VCs) were set up rapidly to support the pace and scale of roll-out. The VC in this article used a large conference centre in Bournemouth, a town in the county of Dorset.

The risk of severe illness and death from COVID-19 is increased for people who are older, are male, are from more deprived areas, are within specific ethnic minority groups, have a physical illness and have vulnerabilities. COVID-19 is widely acknowledged to have exacerbated and highlighted the impact of health, social and economic inequalities.^{2,3} Early data on the COVID-19 vaccination programme indicated lower uptake among specific ethnic minority groups and individuals from more deprived areas.^{4,5}

Dorset county, and the Bournemouth, Christchurch and Poole (BCP) areas have a higher proportion of adults aged over 65 years, with health and life expectancy generally better than the national average. Although this an area that includes prosperity, there are pockets of significant deprivation and evidence of health inequalities.^{6,7}

Multi-component approaches are recommended to address vaccination inequalities.⁸ There is a need for evaluation and evidence gathering to ensure that future robust evidence-based approaches through prioritisation and roll-out of vaccinations are used to prevent the widening of inequalities.^{9,10}

A continuous quality improvement (QI) process was embedded within a large COVID-19 VC setting. The aim of this paper was to identify changes to the service resulting from the actions and methods used to mitigate inequalities in service-user experience of the VC. The outputs from continuous improvement measures have been described and learning was identified to support

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future application of QI methods within this setting. We have included two case studies of mitigation measures used to reduce inequalities, alongside learning gained from them.

Methods

The set-up and delivery of the new vaccination programme at this centre included embedding QI mechanisms to capture feedback from staff and service users to identify and monitor changes. Daily 'huddles' included representatives from all staff groups involved in the delivery of the service and were chaired by an on-site operations manager. Feedback was actively encouraged and discussed at the huddle including agreement on actions and mitigation measures. This was captured within the QI service log. Progress was monitored at weekly QI review meetings on site. QI learning cycles continued throughout the use of the site.

Service user feedback was captured *ad hoc* when volunteered onsite and through invitations to respond online after using the service. QR codes were provided on site, and the process was later adapted to send out emails and text messages requesting feedback when it was found that the QR option had a low uptake rate.

An equality impact assessment (EIA) framework based on national guidance was adapted from the locally agreed template to ensure systematic inclusion of groups with protected characteristics and those identified by contemporaneous research at the time of development (January 2021).

The EIA was performed on 8 February 2021 using information from a site visit, observations within the patient flow and *ad hoc* feedback from onsite staff to provide an assessment of the service user journey. Information was obtained to inform the EIA from service user feedback (1,369 responses) from the week prior to the assessment, captured through online questionnaires and collated by patient experience staff. This was supplemented with collated feedback from a visit by local 'experts by experience'. These sources of collated feedback were read in full; themes were identified regarding access to and access within the VC, and service user experience. At the time of the EIA, the Joint Committee on Vaccination and Immunisation cohorts 1–4 were eligible for vaccination.¹

EIA findings were reported to an operations manager within the vaccination programme and escalated to the daily huddle to inform about mitigations to inequitable access through the embedded QI process.

Operations managers proactively strengthened links and relationships with community ambassadors (CAs) to invite and tailor vaccination clinics. CAs were asked to advise on culturally appropriate processes, languages and support through their networks, and to invite community members to attend for vaccination.

EIA documentation, service improvement logs, service user feedback and an in-depth interview with the VC operations manager were used to identify outcomes.

Outcomes

Readily accessible printed or audio–visual communications in a variety of formats and languages were made available at the VC. Resources were collated into a readily accessible folder of pre-printed materials. Where the correct language / best suited format was unclear, options were presented to the service user to choose

their preferred option. Staff and volunteers received training to identify and provide additional support.

Establishing open lines of communication through CAs enabled the provision of evidence-based information. Negative information and misinformation through social media and community discussions were identified as reasons for apprehension in attending for vaccination. To mitigate these, questions and comments from phone calls and via social media were answered promptly, and in partnership with the VC staff and CAs using positive, evidence-based information. Transparent communication with communities via CAs provided an important method by which concerns could be addressed to encourage acceptance of the vaccination offer. This resulted in positive feedback and active engagement with the local community.

Engagement with frequently underserved groups enabled the development of a focused social media campaign to communities, including people from ethnic minorities. It also enabled peer support and questions to be answered via trusted community members.

The VC supplemented the national booking system by inviting people at higher risk of not attending and by providing drop-in slots. Specific clinics provided opportunities for CAs to be a bridge between official NHS communications and their communities to encourage attendance at drop-in clinics. This flexibility of approach and openness to co-creation drawing on community assets was positively received by attendees.

Please see Table 1 for a summary of results and Table 2 for details of working examples.

Conclusion and next steps

The systematic identification of inequalities and mitigating actions using a standardised methodology was operationally deliverable in the face of heightened service pressure. Mitigations of inequitable uptake of vaccinations evolved throughout the programme through a continuous quality improvement approach. Identifying additional needs and providing support to service users became an element of the services' ethos, with staff and volunteers trained and encouraged to proactively identify service users who would benefit from additional support.

The approach that was used at the VC aimed to reduce barriers to vaccination within a wider system-level programme. CA engagement supported the building of trust and aimed to reduce misinformation to encourage uptake of vaccination.¹² Specific toolkits have been made publicly available and examples shared to mitigate inequalities linked to place of residence, and with specific ethnicities, faith communities and health status.¹³

Capturing service-user and CA feedback within the embedded processes meant that clinics and communication aids could be tailored and adapted. Targeted social media packages, clinics and simple aids helped to support feelings of being welcome and create positive communication.

CA engagement and enthusiasm aided successful vaccination uptake through encouraging acceptance of vaccination in underserved groups. Working with specific communities to co-create vaccination events required flexibility in approach outside of routine invitation and booking systems. Communications from CAs into communities may have acted as a behavioural nudge, however, research is required to establish whether this was a similar mechanism for encouraging engagement with vaccination.¹⁴

Table 1. Mitigation measures aligned to the evaluation framework

Risk group	Actions and mitigating measures
Disability	Additional use of mobility devices. Volunteers to direct and support service users.
Mental health	Staff and volunteers: identify anxious individuals and offer them fast tracking. Early morning appointments. Promoted vaccinations for mental health needs service users, through links with Patient Advice and Liaison Service (PALS), volunteers, staff and word of mouth. Individual private area.
Accessibility	Resources available in Braille, extra-large font, prompt cards, pictorial, easy to read and in approximately 25 languages. Easy-access folder system with resources.
Visual impairment	Volunteers available at all points in the vaccination centre service flow. Carers and guide dogs enabled to accompany service users. Alterations to improve furniture visibility. Clinical assessment and vaccination by one clinician to reduce movement. Large font laminated information cards.
Hearing impairment	Laminated information cards. Laminated signs created for reception: key questions to prompt service user.
Parenthood	Breastfeeding private space: screened seating area with potable water. Pregnant women offered fast tracking. Information leaflet on vaccination in pregnancy developed with specialist maternity nurses. Tailored options for service users attending with children.
Culture	Proactive measures for under-served groups providing specific clinics and invitations. Bespoke community clinics co-created with community ambassadors from specific ethnic minority and religious groups. Operations managers proactively strengthened links and relationships with community ambassadors to invite and tailor vaccination clinics. Community ambassadors were asked to advise on culturally appropriate processes, languages and support.
Carers	Carers attending with a clinically vulnerable person were offered vaccination.
Homeless	Tailored invitation for individuals experiencing homelessness with drop-in access for vaccination. Outreach vaccination clinics at a local homeless hostel. Information delivered via charities promoting vaccination.
Deprivation level	Free taxi service to and from vaccination centres communicated widely. Outreach vaccination events positioned in areas of higher deprivation.
Vaccine hesitancy	Questions encouraged from people expressing hesitancy with the vaccination. Discussion provided by clinical team to enable informed choice.
Addiction	In self-reported substance misuse, clinical assessment taken to ensure consent. Service users offered fast tracking.
Uncertain residency status	Proactive engagement of vaccination centre staff with community ambassadors to provide reassurance and provision of COVID-19 vaccination for undocumented migrants and those of uncertain residency status.
Extremely vulnerable	Drop-in slots provided to ensure urgent access to vaccination. Service users were identified as extremely vulnerable with a rapid access referral form, identified to the operational manager and fast tracked.
Specific clinical	Staff and volunteers actively encouraged to identify anyone showing anxiety, distress or those who self-identify as needle phobic. Fast tracking and support offered to the service user throughout attendance according to need. Use of recovery area with couches that are quieter and away from other service users if required for vaccination.

These findings are from one centre within the county of Dorset in the delivery of a single vaccination programme. The backdrop of the pandemic and a vaccination programme during a time of national lockdown lends itself to challenges with generalisability. However, it does demonstrate the application of tools to mitigate inequalities despite extraordinary service pressures.

Due to the limitations of the data collection methods and access, it was not possible to measure changes in vaccination uptake across centres throughout the process. As part of a national programme, when community centred clinics were held (as described in case study 1; Table 2), services users reported attendance from residences out of the area to take up the offer of the vaccination within their preferred setting (conversation between B Andrews-Jones and a service user, May 2021), making the denominator challenging to accurately identify.

In keeping with literature at the time of writing, this case study demonstrates the need for a multi-component and asset-based

approach to service design and engagement inequalities.⁸ Implementation of mitigation strategies were facilitated by collaboration and support from other areas of the organisation, sufficient time for implementing measures, collaboration with community partners, and the inclusion of EIAs in the programme's operational plans.¹⁵

The themes of learning identified for strengthening future approaches to reducing inequalities in vaccination uptake were embedding a systematic process for identifying inequalities and mitigations (EIA), and utilising a continuous QI approach within the organisation to learn and adapt to service user needs. This is supported by proactive engagement with CAs and trusted voices that strengthened and created opportunities to reach underserved groups. Although the setting is specific to the COVID-19 vaccination service, transferrable processes have been utilised that could be applied to other settings aiming to address inequalities. ■

Table 2. Case study examples taken from the vaccination centres

Case study	Situation/background	Intervention/adaptations	Impact
1. Increasing uptake in ethnic minority groups	To address inequalities experienced by ethnic minority groups, VC leaders actively engaged with local CAs. Barriers to uptake were highlighted including immigration status; low trust; poor links with public sector organisations; lack of confidence; and poor engagement between their community and the vaccination programme. In response, a dedicated COVID-19 vaccination session was recommended for people from an ethnic minority.	<p>Co-design focused on:</p> <ul style="list-style-type: none"> > patient information leaflets (what to expect) in multiple languages > proactive communication between VC managers and CAs > clinical assessment questions provided prior to the clinic in suitable language options > additional information provided during Ramadan > training of clinical staff to enable documentation for individuals without a GP or NHS number > vaccination clinic promotion using targeted social media <p>Approach:</p> <ul style="list-style-type: none"> > vaccine-related questions were valued and answered promptly via CAs > sensitive questions answered with links to clearly communicated guidance > religion-neutral events were designed to accommodate beliefs > provision of a range of communication aids with identification of resources in advance 	Across two events, over 200 people of Indian ethnicity received their first COVID-19 vaccination. This approach contributed to the vaccination of people from three key local ethnic minority groups: Chinese, Indian and Nepalese. Targeted social media open invitations received positive feedback, with reports of this enhancing the feeling of encouragement to attend and strengthening the community links through CAs. Service user event feedback was positive, with a feeling of being 'organised', 'welcoming', and 'efficient and kind'. Clinics received local media coverage, which strengthened awareness and feedback from the local community.
2. Supporting vaccination uptake for people with physical disabilities	Contemporaneous evidence indicated people with physical disabilities were at increased risk of death from COVID-19. Prioritisation of COVID-19 vaccination included those with a disability. ¹¹ Accessibility was reviewed during initial risk assessment, the EIA, patient feedback and reporting from staff. Adaptations were made in response.	<ul style="list-style-type: none"> > Transport of service users to and from the car park was offered by golf buggy. > Designated disabled drop off and parking area within close proximity to the site entrance. > Additional training for volunteers on moving and handling to include wheelchair assistance. > Improved signage into and around the building. > Additional information regarding disabled access on the local website. > Provision of a folder of aids/information for disabled service users using accessible formats: easy to read, Braille and large font. > Collaborative working with a local volunteer charity to aid the coordination and movement of people with disabilities within the VC. 	Feedback received from service users improved over time with the measures applied. Service users expressed feelings of gratitude. Aspects of the provision that were received positively included communication, reassuring staff, non-judgemental approach and improved access.

CAs = community ambassadors; EIA = equality impact assessment; GP = general practitioner; VC = vaccination centres.

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