

# Social Acceptability of Quarantine in Public Health Emergencies: A Systematic Review

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## Research Article

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# Abstract

**Background:** Quarantine and isolation is an effective method of controlling outbreaks of emerging and re-emerging infectious diseases. However, the effectiveness of these interventions depends on a high compliance rate, which is often compromised by multiple reasons to break quarantine or refuse isolation. In this systematic review, we highlight public attitudes and reactions towards quarantine including factors that may hinder quarantine measures during public health epidemics, public preferences for using quarantine during epidemics or infectious disease outbreaks and key considerations for the use of quarantine in public health epidemics.

**Methods:** We searched five databases for publications on quarantine and isolation, and screened for empirical studies on social acceptability.

**Results:** We found 17 articles that met the inclusion criteria. A review of the articles showed some factors could impede compliance with quarantine and isolation. These include the feelings of guilt and social distress, concern about loss of income, and self and social stigma and/or discrimination. On the other hand, compliance with quarantine and isolation was positively associated with perceptions of being a civic duty or fears of infecting loved ones. The articles concluded that, quarantine compliance can be enhanced through assurance of income and promoting safe interaction with loved ones during isolation/quarantine.

**Conclusions:** This review provides public health experts, emergency planners, and policy makers with key considerations to improve public compliance with isolation and quarantine measures during public health emergencies.

## Introduction

In the current COVID-19 pandemic context, quarantine and isolation (Q&I) are at the center of public debates regarding 'lockdowns', individual liberty, and economic crisis. Q&I are age-old public health strategies dating at least as far back as the 14th century bubonic plague (Matovinovic, 1969, Paliga, 2020, Conti, 2008). However, the emergence of Severe Acute Respiratory Syndrome (SARS), the Middle East Respiratory Symptom (MERS) and the H1NI influenza epidemics started a new wave of the use of Q&I in the 21st century. More recently, Q&I have been employed in response to outbreaks of other emerging and re-emerging infectious diseases, such as Ebola virus disease (EVD), Lassa fever and more recently COVID-19.

The words quarantine and isolation are sometimes used interchangeably and may have several meanings (Barbisch et al., 2015). Isolation is the separation of a person who has been diagnosed with an infectious disease from otherwise healthy people, while quarantine, is the confinement of an individual who has been exposed to an infectious disease but is not a confirmed case (WHO, 2020). There are also subtle differences in the objectives of both strategies. Quarantine can facilitate active monitoring,

detection, and diagnosis of cases, while the main goal of isolation is to prevent the further spread of infection. Both strategies involve restriction of movement and confinement to a particular/specific space.

Quarantine and isolation are effective in saving lives during disease outbreaks, especially when there is a high risk of person-to-person transmission and when there are no effective vaccines or therapeutic options (Day et al., 2006, Tang et al., 2020). However, the use of these two infectious disease control strategies raises a myriad of issues, including political, ethical, legal, socioeconomic public health and human rights, that require policy makers to find a balance between public interest and individual rights (Tognotti, 2013, Upshur, 2003, Koch, 2016). In some instances, quarantine has been perceived as intrusive and stigmatizing (Barbisch et al., 2015, Miles, 2015) leading to reluctance to self-isolate in the case of exposure to an infected person, or to report symptomatic cases. Quarantine and isolation have also been associated with stigma and discrimination, resulting to some people perceiving Q&I as sometimes being worse than the health concerns associated with the disease (Newman, 2012). Poor compliance with Q&I can frustrate public health responses to epidemics or disease outbreaks and, in some instances, like the case of the Ebola outbreaks in West Africa, lead government authorities to use autocratic approaches such as engaging the military to enforce quarantine and isolation. (Koch, 2016, Thompson, 2016, Ambe and Kombe, 2019).

Quarantine and isolation will likely remain essential public health strategies in the face of the increasing risk of epidemics of emerging and re-emerging infectious diseases. . It is therefore, important to identify and understand factors that promote or hamper compliance to Q&I, and improve the design and implementation of public health emergency measures. In this systematic review we highlight public attitudes and reactions towards Q&I specifically in relation to: : 1) factors that may hinder Q&I measures during public health emergencies (PHE); 2) Public preferences for implementing Q&I; and 3) factors and activities that may promote/impede compliance with Q&I.

## Methods

A systematic review was conducted following a protocol which was designed and registered *ex ante* in PROSPERO (Registration ID: #CRD42020175476). The goal of the systematic review was to identify published literature and synthesise findings on all published studies that have been conducted globally on the social acceptability of Q&I as a public health strategy during epidemics or public health emergencies. The review was conducted and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Moher et al., 2009).

## Search strategy

We used a three-stage search approach. The first was a comprehensive search of the following literature databases: PubMed, PsycInfo, Scopus, CINAHL and social sciences citation Index (Web of Science). These databases were queried using the search string: (Quarantine OR Isolation OR Social distancing) AND (Outbreaks OR Epidemics Or Pandemics OR Public health emergencies). The search results were

exported to EndNote X9, and duplicates removed for screening titles and abstracts by two reviewers (see next section for details). Secondly, we conducted a search of cited references in the included articles to identify any that meet the inclusion criteria but were not yet captured (after the assessment of risk of bias). The resulting list was then screened for relevance. The initial database search was performed in April 2020, with update searches performed at the end of July 2021

A study was considered eligible for inclusion in the review if it was: a) a primary research on public perceptions on Q&I; b) published in peer-reviewed journal; c) included outcomes on the acceptability of Q&I as a public health measure during disease outbreaks. Only studies published in English and French were included in the review (based on the language proficiency of the review team).

## **Risk of bias (quality) assessment**

To assess the methodological quality of the included articles, we used the Joanna Briggs Institute Critical Appraisal tools for each respective study design. (Aromataris and Munn, 2017). Two reviewers (NM and AM) independently assessed the methodological quality for each article and discrepancies were resolved by consensus following discussions with a third (PCC) reviewer.

## **Data synthesis**

This review was initially designed to use a mixed methods approach. However, due to paucity of quantitative studies on the social acceptability of Q&I, the few quantitative studies that were identified were thematically analysed together with the qualitative studies. Full text of all eligible articles was imported into NVIVO 12 and analysed using the meta-ethnography approach for synthesising qualitative studies (Noblit and Hare, 1999). This involved two stages. The first requires extracting descriptive details of the published article such as authors, study design, year of publication, outbreak and aim of the study. The second stage was the thematic analysis (Vaismoradi et al., 2016). This required repeated reading of the full text of each article to identify themes on acceptability of Q&I and to extract verbatim quotes from the papers to support the identified themes. We used the inductive thematic approach (Joffe, 2012) to develop a coding framework (Gibbs, 2007). The coding framework was then applied to two randomly selected articles in the dataset by two researchers in the review team who were not involved in the development of the initial coding framework.

## **Results**

The original search yielded 5777 articles: PubMed (111), PyschInfo (408), Scopus (2000), CINAHL (1253) and Web of Science (2005). Of these, 5761 references were excluded either due to inappropriate outcome evaluation and/or inadequate study design or population. Sixteen references were included for full-text screening. Citation tracking and hand searching of the 16 articles yielded an additional 19 titles that may be appropriate. The final screening of full texts gave a total of 15 articles that met the inclusion criteria

(figure 1). The last search was done in July 2021 with the goal of identifying new articles that may have been published since the initial database search. This led to the identification of two additional articles that met the inclusion criteria.

The following diseases were covered in the articles: Ebola Virus Disease, Methicillin-Resistant *Staphylococcus aureus*, Severe Acute Respiratory Syndrome, COVID-19, Middle-Eastern Respiratory Syndrome and Influenza. The articles reported studies conducted in Canada, the Democratic Republic of Congo, Hong Kong, Iran, Mainland China, Singapore, South Korea, Sweden, Taiwan, the United States and Israel. Some of these studies were multi country studies (Table 1).

The themes that emerged from the analysis can be grouped into five categories: Emotional and psychological dimensions of Q&I during a PHE; reasons for compliance with Q&I measures; reasons for non-compliance with Q&I measures; measures that could make Q&I more socially acceptable; and life after Q&I (Table 2).

## **Emotional and psychological dimensions of quarantine/isolation during a PHE**

The first theme that emerged from our analysis was a view of the personal challenges that arose from the application of Q&I measures during a PHE. These were not explicitly referred to as 'barriers to compliance' to Q&I measures, but offered an insight into the individual emotional and psychological experience of Q&I.

Five studies reported that individuals facing quarantine had feelings of frustration after having been exposed to an infected individual (Cava et al., 2005a, DiGiovanni et al., 2004, Dodgson et al., 2010, Pellecchia, 2017). This was mainly due to fears that they will be blamed by family members, colleagues or the general public for having, and possibly spreading, the disease.

*You don't know if you're going to be blamed. There's so much unknown ... personally, from a social aspect, from a wellness, illness perspective. It just affects you, and it's very ... it's unknown, but it's also just you (Cava et al., 2005a).*

Thus, when they received information that they were to be quarantined, they immediately panicked and experienced guilt and shame. This guilt and shame can be both an inhibitor to compliance and a disincentive to testing as individuals may wish to avoid this guilt by not taking a test.

In some cases, guilt and fear was exacerbated by a perception that Q&I was a punishment. This was partly informed by media coverage of Q&I during epidemics, which shaped how quarantine was conceptualised by the public (DiGiovanni et al., 2004, Pellecchia, 2017, Skyman et al., 2010, Barratt et al., 2010).

*It seemed from reading international media reports that putting people into quarantine was the only means of cutting the transmission of the virus, yet Montserrado's citizens were not witnessing a decrease in the number of Ebola cases: on the contrary, cases continued to be identified despite the harsh measures taken, and the perception of being quarantined as a means of punishment fed people's already growing fears (Pellecchia, 2017)*

In other cases when Q&I was considered important, study participants mentioned that they felt like they were in prison and “stuck away”, and that their independence was restricted as they had to rely on others for basic daily activities like taking a shower or having a drink (Barratt et al., 2010, Jacobs, 2007). This lack of freedom and independence, along with prevalent media coverage projecting Q&I as a punishment for spreading disease, exacerbated the guilt and shame, making Q&I less tolerable.

A third challenge to the social acceptability of Q&I is the fear of boredom. This is worse if individuals have to leave their homes and isolate in designated facilities (Barratt et al., 2010, DiGiovanni et al., 2004, Skyman et al., 2010, Blendon et al., 2006). Boredom mainly stemmed from not being able to communicate with other persons, have social visits from family members, or have access to electronic entertainment and e-communication facilities such as phones, email and so on. (DiGiovanni et al., 2004, Barratt et al., 2010). In some studies, participants reported that the size of physical space available to them in the isolation facilities made the Q&I experience unpleasant and less acceptable (Skyman et al., 2010, Barratt et al., 2010).

*It was difficult. I was isolated and locked in a room with double dividing walls and I did not get to go out, so it was boring. It was so dull, because they only came when they were going to clean or bring food. It was beautiful to look out onto the field and the greenery. (Skyman et al., 2010).*

However in some cases, particularly where participants were provided private rooms, they mentioned that although quarantine may have reduced their opportunity to socialize, it afforded some degree of privacy and solace that was valued at the time. (Barratt et al., 2010). There were also diverse views on the preference for home-quarantine to address the concerns about boredom or lack of socialisation and balance this with the concerns about infecting others. (Blendon et al., 2006, DiGiovanni et al., 2004, Orset, 2018).

Finally, the attitudes and practices of staff (both health and non-healthcare staff) at Q&I facilities may also impact the acceptability of Q&I (Barratt et al., 2010, Skyman et al., 2010). Specific practices such as the wearing of gowns and gloves when interacting with patients, staff refusing to shake hands or be in close contact with patients could lead to patients feeling unclean or contagious (Barratt et al., 2010, Skyman et al., 2010). While the use of personal protective equipment (PPE) is required to limit the spread of the disease, the physical barrier that PPE creates also introduces a social barrier which can compromise the quality of care received by persons in Q&I (Barratt et al., 2010).

## Reasons for compliance with quarantine/isolation measures

The reasons cited for respecting Q&I rules can be grouped into two categories: internal and external. The internal reasons were the perceptions that it was a 'civic duty' to quarantine if infected (DiGiovanni et al., 2004, Cava et al., 2005b), as one participant explained: "*We're all trying to be good citizens. And we're all trying to help, you know, other people by making sacrifices like being in quarantine.*" (Cava et al., 2005b) A related reason was the idea of not wanting to spread the infection to loved ones. (Jacobs, 2007).

External reasons for complying to Q&I measures were further categorised into two; first, more coercive measures including fines, identified during active monitoring for compliance by health authorities or designees (Cava et al., 2005b, Cava et al., 2005a, DiGiovanni et al., 2004, Blendon et al., 2006). The second, external reason included access to supportive services like assured access to professional medical care/supplies and social services such as babysitting (Orset, 2018, Pellecchia, 2017, Jacobs, 2007), access to basic needs such as groceries (Bodas and Peleg, 2020b, DiGiovanni et al., 2004, Jacobs, 2007, Cava et al., 2005a, Kpanake et al., 2019) and compensation for loss of income during the period of quarantine/isolation. Assurance that persons in Q&I will continue to receive their income, either through non-suspension of salaries or the implementation of a government compensation plan for lost wages (Blendon et al., 2006, Bodas and Peleg, 2020b, DiGiovanni et al., 2004) were the most prevalent supportive measures identified. Assurances of compensation for lost income was particularly important for individuals in part-time or casual work and for those who were self-employed (DiGiovanni et al., 2004). Willingness to comply with Q&I differed based on by individual characteristics such as age, income, household composition, professional group, perceived high risk of disease transmission and the conditions of home confinement (Orset, 2018, Bodas and Peleg, 2020b, Kpanake et al., 2019).

## Reasons for non-compliance with quarantine or isolation measures

Reasons for non-compliance to Q&I measures can be grouped into five categories: perception of risk of transmission (Cava et al., 2005b, Mutombo et al., 2019, Pellecchia, 2017); lack of access to social amenities (DiGiovanni et al., 2004, Pellecchia, 2017); lack of trust in the public health system (Cava et al., 2005b, Pellecchia, 2017); lack of credibility of information from the public health authorities (Cava et al., 2005b); and inconsistency on the application of quarantine measures across jurisdictions (DiGiovanni et al., 2004, Pellecchia, 2017). These different factors were often interlinked. For example, lack of credibility or inconsistency in information, as well as differences in application of quarantine regulations could lead to breakdown of trust in the public health system making the public not to follow public health advice on Q&I.

*That's why I didn't even ... need public health ... I could probably tell them, you know, I knew more information than they did ... **I would listen to my dad more than the public health (department).** It was*

*kind of weird because they told us that I had to be quarantined. But it didn't make sense because my roommate didn't have to be quarantined as well because ... if I had the virus then most likely she had it as well. So it would only make sense to quarantine both of us, but I'm not sure what went on there.*(Cava et al., 2005b) *Emphasis added*

Not only does this quote show a lack of trust – “I would listen to my dad more than the public health (department)” – but also highlighted that an inconsistency in the application of rules eroded trust further.

Past experiences (either personally or of a family member) of poor Q&I conditions also led to increased mistrust in the public health system. Some participants explained how they were at greater risk of contracting an infection while they were in quarantine because they were not provided with basic personal protective equipment such as face masks (Cava et al., 2005b). In some cases, Poor Q&I conditions were a disincentive for the general population to report symptoms to public health officials because of the fear of being held in poor conditions. A participant described how the conditions during quarantine “killed” her mother.

*“I hated my mother's quarantine. It was a bad practice. People always get sick and we do not take them to the ECC. They kept my mother for 3 days and then they killed her. My father already died two weeks before, it was me who touched him and washed his clothes when he was sick. I did not get vaccinated but I'm still alive 3 months later.”* (Mutombo et al., 2019).

Also, poor access to social amenities, lack of basic needs (DiGiovanni et al., 2004, Pellecchia, 2017) and infrequent health checks by public health officials (Orset, 2018, Pellecchia, 2017) can lead to the decrease in compliance. For example:

*An elderly woman in the village was mother to a young woman who had died of Ebola ten days earlier. She had been taking care of her daughter and her two children, so the authorities put all of them under quarantine in the same house. The old woman was helped by community members who provided her with food, water and firewood. From the beginning of her quarantine period, she only received two visits from the [Ministry of Health] staff member who was in charge of checking her temperature and received no support at all from other NGOs in terms of food. During her quarantine, her son-in-law came to visit and attempted to take the children away with him. The man was supposed to be in quarantine himself, but he was reported to have paid a bribe in order to be released.* (Pellecchia, 2017)

Here, the inability of health authorities to provide suitable amenities for Q&I led to all members of the household being held in Q&I in the same house thereby increasing their risk of contracting Ebola. Second, limited support from the Ministry of Health and other non-governmental organisations meant that community members had to step in, increasing the risk to community members. Third, this lack of support led to the son-in-law breaking his own quarantine, thereby endangering the community.

## **Improving acceptability of quarantine and isolation**

Key approaches of making Q&I more socially acceptable were linked to the different reasons for (non-)compliance to Q&I measures. For example, in some studies, participants suggested that feelings of abandonment and boredom could be remedied by ensuring that persons in Q&I had access to communication systems (email, telephone, intranets or private internet chat rooms) which enable them to reach out to family members and healthcare workers (Barratt et al., 2010, DiGiovanni et al., 2004, Blendon et al., 2006). Despite being in quarantine, there was an expressed interest to be in physical contact with family members and friends through social visits (Barratt et al., 2010, Cava et al., 2005b, Pellecchia, 2017). Social visits from family members, community leaders, religious leaders and neighbours were considered important to reassure those in Q&I that they are not alone. (Pellecchia, 2017) Amongst adolescents, access to study materials and e-entertainment was important for adolescents (DiGiovanni et al., 2004).

Secondly, compliance and social acceptability of Q&I can be improved if persons were financially compensated or given paid leave during the time they are in Q&I. (Blendon et al., 2006, Bodas and Peleg, 2020b, DiGiovanni et al., 2004). This was particularly relevant for persons working in the informal sector as quarantine could have a negative impact on their household income. (Pellecchia, 2017). In cases where participants were financially compensated, there were no reports of financial hardship although they reported that the process of compensation was slower and could be improved (Cava et al., 2005a).

## Life after quarantine and isolation

Post-quarantine and isolation experiences had an impact on public perceptions about Q&I during epidemics (Table 2). Stigma and discrimination were common experiences (Cava et al., 2005a, DiGiovanni et al., 2004, Blendon et al., 2006). Persons who had been in Q&I received unwanted attention, ridicule, avoidance, and withdrawn invitations from social events. This made it difficult to re-establish social relationships.

*There's a couple of girls there I go to lunch with daily. When I came back it was like ~Hi.~ One of them didn't talk to me for about 3 days. Wouldn't look at me .... and it's like [tentatively] ~Hi.~ . . . Stayed away. Stayed very far from me .... and didn't have lunch with me. They did not have lunch with me for a long time (Cava et al., 2005a)*

Sometimes the stigma and discrimination could go on for weeks after the end of the quarantine period, This could be extended to family members, such as children and spouses (DiGiovanni et al., 2004).

Despite these negative implications, positive impacts of Q&I were also reported (Wang et al., 2011, Cava et al., 2005b). For example Q&I offered an opportunity to become more conscious of public health measures, such as hand hygiene and avoiding crowded spaces during a PHE (Cava et al., 2005b); teach others about impacts and coping mechanisms

## Discussion

Q&I have risen to the fore of various debates during the COVID-19 pandemic. It is therefore important to understand public perceptions of these issues to be able to improve public health response to epidemics. In this review, we examined some of these factors, including lack of trust in the public health system, inconsistency in the application of quarantine procedures, fear of loss of income, inability to access basic and social services, and self-perception of risk of transmission. Approaches that could be used to enhance compliance to Q&I measures include financial compensation for those in Q&I (in case of loss of income); provision of basic amenities and social goods; permitting visits from loved ones (subject to appropriate safeguards); designing Q&I spaces to support privacy; and training non-health professionals who manned Q&I facilities on how to socially interact with persons in quarantine.

This review indicates that an exclusive focus on biological management to the exclusion of the psychosocial and economic management of patients have dire consequences for compliance. Compensation of lost wages led to more than 94% of public compliance to self-quarantine measures. This dropped to less than 57% of public compliance when compensation was removed (Bodas and Peleg, 2020a). Quarantine and isolation could lead to severe economic hardship and by extension, shortages of food and other basic needs, especially for persons whose earnings are pro-rated or based on daily activities (Pellecchia, 2017). The feeling of boredom and neglect while in Q&I are also strong indicators for depression (Cava et al., 2005a; 2005b). The need for mental health care during Q&I had been highlighted by multiple studies (Brooks et al., 2020, Upadhyay et al., 2020) and should be included in the design and implementation of public health responses.

Of equal importance is the need to ensure sustained and consistent public communication on Q&I measures during PHEs. The risk communication strategies implemented during PHEs should promote positive public outlook and support for Q&I, and should prevent Q&I related stigma and discrimination. Communities should be engaged in the development of public communication messages to address the concerns related to their cultural and religious beliefs, age, and level of education (Bauerle Bass et al., 2010, DiGiovanni et al., 2004, Kpanake et al., 2019). Stigmatisation and discrimination of individuals, families and sometimes entire communities or regions can be huge with some individuals not being able to integrate into community life long after recovery (Nuriddin et al., 2018, Cassiani-Miranda et al., 2020, Usifoh et al., 2019, Person et al., 2004). High risk individuals, like healthcare workers, may also face stigma even when not infected (Grover et al., 2020).

Stigmatisation during epidemics is often fuelled by misconceptions and misinformation about the disease, risk of transmission, and public health measures available to patients and the community (Asogun et al., 2014, Schmidt et al., 2020). It creates fear, psychological distress, and panic within a community, leading to under reporting of symptoms for fears of being quarantined and stigmatised. These slow down the impact of disease containment measures and often prolong the duration of the epidemic/pandemic.

There were efforts identified during the COVID-19 pandemic to reduce the psychosocial impact of Q&I. These include the use of hugging walls and curtains (Blake et al., 2020), and the use of online video

conferencing tools to promote communication with family or support groups (DisGiovanni et al., 2004; Yoon et al. 2017). We however, could not access any information on community-level strategies to reduce Q&I related stigma and discrimination. The findings of this systematic review may provide public health experts, emergency planners, and policy makers with key considerations for not only improving compliance to Q&I during PHEs, but a strategic direction on eliminating Q&I related stigma and discrimination to improve compliance to and public trust in Q&I measures.

## **Declarations**

## **Ethics approval and consent to participate**

Not applicable

## **Consent for publication**

Not applicable

## **Availability of data and materials**

The dataset analysed during the current study is available from the corresponding author on reasonable request.

## **Competing interests**

The authors declare that they have no competing interests

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Authors received no direct funding for this study

## **Authors' contributions**

NSM conceived the study, all authors contributed to the design of the study, JRM and MOF, peer reviewed the search strategies, NM and MOA conducted conducted the literature searches, imported records, and removed duplicates. NSM, JRM, PCC JRA and ENL conducted the screening of the records, extracted the data, and appraised the quality of evidence. NSM led the collection of full text-articles. NSM, JRM and PCC did the analysis and interpretation of data and discrepancies were resolved with JRA and SJU . NSM and JRM wrote the first draft of the paper which was revised by JRA, SJU, DH, MOF and MOA . All authors

were responsible for revising intellectual content of subsequent versions of the manuscript. All authors read and approved the final manuscript.

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## Tables

**Table 1:** Summary of Studies (n=17)

	<b>Article</b>	<b>Country</b>	<b>Study aims</b>	<b>Disease Outbreak</b>	<b>Study method</b>
1	Barrat et al 2010	New Zealand	To explore the lived experience of MRSA isolation in hospitalised patients	MRSA	In-depth interviews
2	Blake et al 2020	UK	To explore University Students' perceptions and experiences of self-isolation	Covid-19	Focus Groups
3	Blendon et al 2006	Hong Kong, Singapore, Taiwan, USA	To understand public reaction to the use of widespread quarantine	N/A	Survey
4	Bodas and Peleg 2020	Israel	To assess public attitudes toward COVID-19 and compliance rates with self-quarantine	Covid-19	Questionnaire
5	Cava et al 2005 (1)	Canada	To explore the experience of home quarantine during the 2003 severe acute respiratory syndrome (SARS) outbreak.	SARS	Interviews
6	Cava et al 2005 (2)	Canada	To explore the experience of being on quarantine for SARS with a focus on perceived risk of contracting SARS and compliance with quarantine protocols.	SARS	Interviews
7	DiGiovanni et al 2004	Canada	To cull lessons from Toronto's experiences with large-scale quarantine during 2003 SARS outbreak	SARS	Interviews and Focus Group Discussions
8	Dodgeson et al 2010	Hong Kong	To describe the experiences of women who became mothers during the SARS outbreak and the ways in which it impacted early post-partum mothering	SARS	Interviews
09	Jacobs 2007	Hong Kong, China, Canada	To investigate how rights concerns were balanced against the uses of quarantine	SARS	Desktop Review of policy statements surveys and interviews
10	Kpanake et al, 2019	Republic of Guinea	To examine the views of lay people on the acceptability of community quarantine.	N/A	Vignette-based questionnaire
11	Mutombo et al 2020	Democratic Republic of the Congo	To explore the experiences of control measures of Ebola outbreak.	Ebola	In-depth interviews
12	Orset 2018	France	To analyse attitudes to home	Generic-	Vignette-

			confinement during a PHE	Post an influenza outbreak	based questionnaire
13	Pellechia 2017	Liberia	To examine how populations affected by the Ebola epidemic in Liberia reacted to the state-imposed quarantine	Ebola	Ethnography
14	Reagu et al 2021	Qatar	To evaluate the psychological impact of institutional isolation and quarantine	Covid-19	Survey
15	Skyman et al 2009	Sweden	To get knowledge regarding patients' experiences who contracted MRSA and were subsequently source isolated	MRSA	In-depth Interviews
16	Wang et al 2011	China	To investigate whether being quarantined to contain H1N1 flu transmission is related to immediate negative psychological consequences.	H1N1 flu epidemic	Questionnaire
17	Yoon et al 2016	South Korea		MERS	Secondary data analysis of a public health program

**Table 2:**

**Quarantine as a PH measure in infectious disease control**

**Social and contextual factors that may limit or improve adherence to quarantine measures**

**Challenges with Isolation/quarantine during PHE**

- Feeling of abandonment
- Frustration and guilt
- Inconsistent information
- Limited access to social or daily needs
- Limited access to health care and interaction with healthcare workers
- Loss of income
- Feeling of abandonment and not being able to socialise
- Limited physical space
- Psychological stress
- Social Stigma
- Violation of rights
- Uncertainty around Social integration in the future

**Reasons for complying with quarantine/isolation measures**

- Civic duty
- Ethical Reasons
- Fines for non-compliance
- Involvement of local communities made it more acceptable
- Access to medical care services (not linked with the outbreak)
- Regular monitoring by public health officials
- High perception of risk of transmission to loved ones/Fear of getting infected
- Provision of basic needs
- Social pressure
- To protect loved ones

**Reasons for non-compliance with quarantine or isolation measures**

- Inaccuracy of and /or inconsistent information provided during the quarantine period by public health officials
- Previous Experience-quarantine
- Self-serving reasons/ Fear of losing contact with loved ones
- Perception of risk/decreased perceived severity of COVID-19

Lack of Trust in PH system

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Inconsistency in application of measures across jurisdiction

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inability to access social services or basic goods

---

Fear of loss of income

---

Fear of mental health getting worse

---

Feeling a greater sense of community due to COVID-19

---

decreased perceived legal consequence

---

Non Compliance by others

---

### **Making quarantine more socially acceptable**

Communication Systems

---

Education and awareness once isolated

---

Financial compensation or incentives; Income generating activity

---

Provision of basic needs

---

Social visits from loved ones

---

Space that allows for more interaction (human and nature/greenery)

---

Support from family, friends and community

---

Support from PH officials

---

### **Life After quarantine**

Feeling of relief

---

Agents of change

---

More aware of safe PH measures the

---

Rejection and stigma by the community

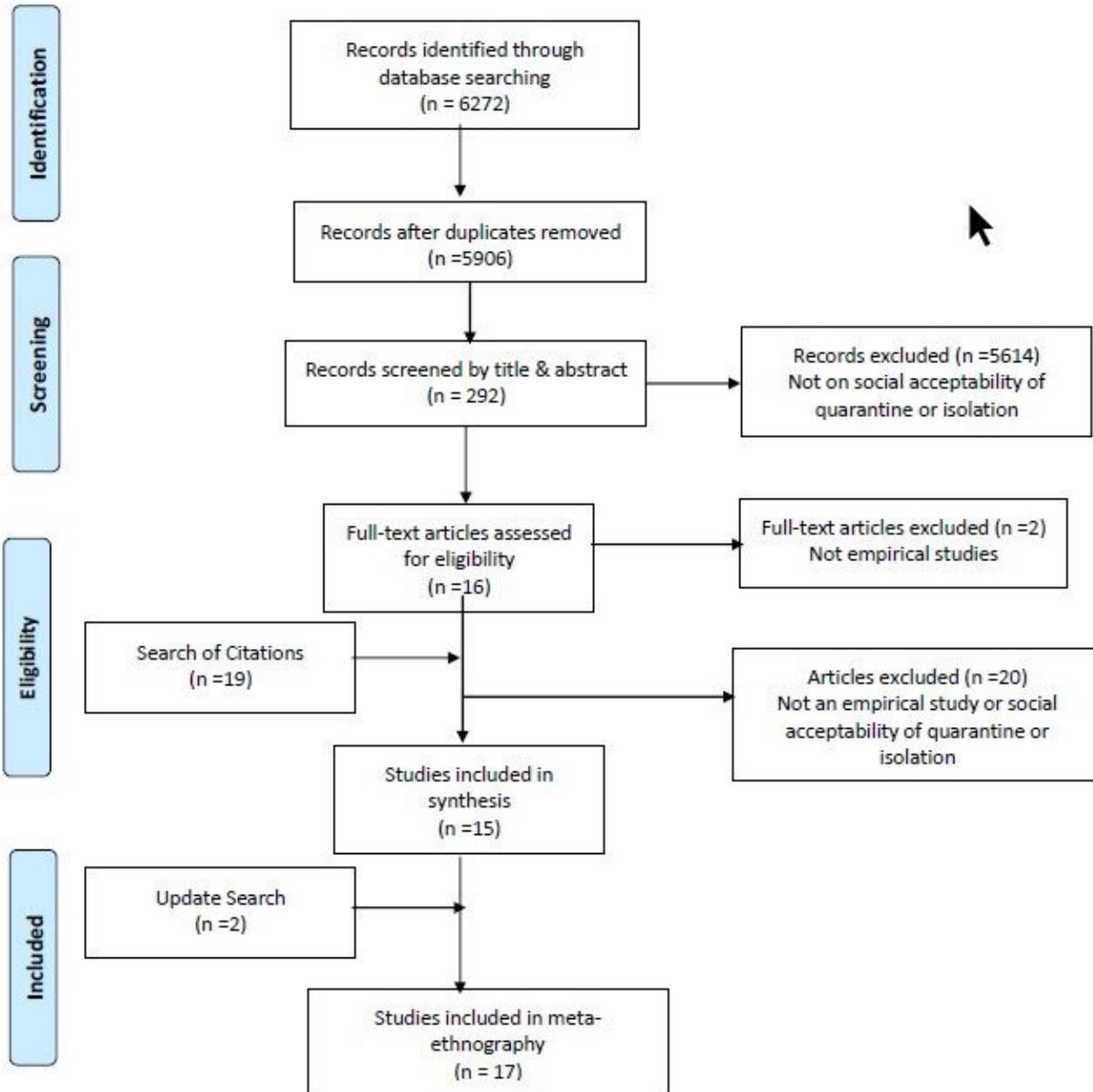
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Positive PH behavioural changes

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## **Figures**

**PRISMA Flow Diagram**  
**Social Acceptability of Quarantine and Isolation During**  
**PHE**



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(8): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit [www.prisma-statement.org](http://www.prisma-statement.org).

**Figure 1**

Flow Diagram