


# Public participation in decisions about measures to manage the COVID-19 pandemic: a systematic review

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## ABSTRACT

**Background** During the COVID-19 pandemic, governments and health authorities faced tough decisions about infection prevention and control measures such as social distancing, face masks and travel. Judgements underlying those decisions require democratic input, as well as expert input. The aim of this review is to inform decisions about how best to achieve public participation in decisions about public health and social interventions in the context of a pandemic or other public health emergencies.

**Objectives** To systematically review examples of public participation in decisions by governments and health authorities about how to control the COVID-19 pandemic.

**Design** We searched Participedia and relevant databases in August 2022. Two authors reviewed titles and abstracts and one author screened publications promoted to full text. One author extracted data from included reports using a standard data-extraction form. A second author checked 10% of the extraction forms. We conducted a structured synthesis using framework analysis.

**Results** We included 24 reports (18 from Participedia). Most took place in high-income countries (n=23), involved 'consulting' the public (n=17) and involved public meetings (usually online). Two initiatives reported explicit support for critical thinking. 11 initiatives were formally evaluated (only three reported impacts). Many initiatives did not contribute to a decision, and 17 initiatives did not include any explicit decision-making criteria.

**Conclusions** Decisions about how to manage the COVID-19 pandemic affected nearly everyone. While public participation in those decisions had the potential to improve the quality of the judgements and decisions that were made, build trust, improve adherence and help ensure transparency and accountability, few examples of such initiatives have been reported and most of those have not been formally evaluated. Identified initiatives did point out potential good practices related to online engagement, crowdsourcing and addressing potential power imbalance. Future research should address improved reporting of initiatives, explicit decision-making criteria, support for critical thinking, engagement of marginalised groups and decision-makers and communication with the public.

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## WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ There is little evidence available related to the effect of or experiences with public participation in decisions by governments and health authorities about how to control the COVID-19 pandemic. A previous review of patient and public engagement in decision-making regarding infectious disease outbreak management did not include any studies focused on the COVID-19 pandemic. Other reviews have examined the effects of public involvement in healthcare planning and policy, multi-stakeholder activities to control COVID-19, integrating citizen engagement into evidence-informed health policymaking, citizen juries in health policymaking, online citizen participation in deliberation and policymaking, deliberative mini-publics, approaches to broaden the diversity of consumers engaged in guideline development, the effect of municipality size on political efficacy and participation and evaluation tools for patient and public engagement in research and health system decision-making.

## BACKGROUND

During the COVID-19 pandemic, governments and health faced tough decisions about infection prevention and control measures such as social distancing, face masks, travel restrictions, quarantines and vaccination. These decisions needed to be made quickly, with limited evidence of the effects of prevention and control measures and important trade-offs between the potential benefits and harms.<sup>1</sup> While these decisions often affected everyone, there appears to have been little public participation in the decision-making processes.<sup>2</sup>

This may be because participation takes time, especially if it is not already institutionalised,<sup>3</sup> and decisions needed to be made quickly. On average, democratic governments were slower than autocratic ones to implement (and enforce) restrictive measures.<sup>4</sup> A likely explanation for this is that democratic governments had to consider democratic

### WHAT THIS STUDY ADDS

⇒ The findings from this study highlight the dearth of systematic and transparent research on the effects of initiatives to support public participation in decision-making to manage the COVID-19 pandemic and point to the need for trials to examine the desirable and undesirable effects of public participation in decision-making processes about a public health emergency and qualitative studies exploring participants' and non-participants' experiences with public participation. Nevertheless, gleaned insights on effective citizen recruitment and engagement, organisation and facilitation of online discussions, execution of crowdsourcing campaigns and engagement with marginalised and indigenous groups can be used to develop future participation initiatives.

### HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Findings from some of the included studies indicate that online discussions and crowdsourcing campaigns may be cost-effective and efficient ways to engage relevant stakeholders in decision-making processes, but that decision-makers should also be engaged in these processes in order to ensure real influence.

rights and elected officials needed to consider their chances of being re-elected, unlike their autocratic counterparts.

In this review, we have defined public participation as citizen engagement in deliberative or decision-making processes. However, public participation is sometimes defined more broadly or narrowly. Some definitions may include where participants are only recipients of and implementers of public health information.<sup>5,6</sup> Conversely, the WHO has focused specifically on 'deliberation and direct integration between members of the public and a national policy-making process' in its guidance for citizen engagement within evidence-informed policy making.<sup>7</sup> Besides being a democratic right, public involvement can enhance decision quality, build trust, assure transparency,<sup>8</sup> include marginalised groups in decision-making<sup>9</sup> and ensure that important uncertainties are identified and addressed.<sup>10</sup> If mismanaged, it can also breed mistrust and waste time, potentially compromising future participatory endeavours.<sup>11</sup>

Little is known about how public participation works in practice. However, the extent to which the potential benefits of participation are achieved and potential harms are avoided is likely to depend on several factors, including<sup>12-24</sup>:

- ▶ Inclusive representation.
- ▶ An appropriate degree of participation with clear expectations.
- ▶ Use of effective methods for participation.
- ▶ Use of a systematic and transparent decision-making process.
- ▶ Critical thinking.
- ▶ Evaluation.

Different circumstances require different degrees of engagement, and these have been conceptualised in several ways. The 'spectrum of participation' developed

by the International Association for Public Participation (IAP2)<sup>24</sup> includes informing, consulting, involving, collaborating and empowering people, and is closely aligned with Arnstein's Ladder of Citizen participation.<sup>25</sup> The IAP2 spectrum describes the goal of participation as well as what the public or stakeholders can expect at each level. The spectrum approach emphasises that different degrees of participation are legitimate and appropriate depending on the goals, time frame, resources and stage of an initiative.<sup>24</sup>

In addition to the level or degree of participation, participation methods can vary according to diverse social, cultural and political contexts, how people are recruited and selected, the type of communication, training and support,<sup>20,22</sup> and whether individuals are participating on their own behalf or on behalf of an organised group with experience debating relevant issues.

Public health decision-making is complex. It requires judgements about the importance of a problem, what options to consider to address the problem, the effects and economic impacts of those options, impacts on equity and the acceptability and feasibility of the options. To be well-informed, it requires consideration of the best available evidence to inform those judgements.<sup>19</sup> The methods used by decision-makers, the criteria guiding their choices and the evidence informing their judgements are often unclear. Systematic and transparent systems for decision-making can help to ensure that all important criteria are considered and that the best available evidence informs judgements about each criterion.<sup>26,27</sup> Evidence-informed decisions are informed by research evidence as well as other information related to context, implementation considerations (eg, feasibility, resources), equity, and stakeholder values, experiences and preferences.<sup>28</sup>

Democracy and well-informed policy decisions depend on critical thinking, the ability to think clearly and rationally about what to believe and what to do.<sup>23</sup> The aim of critical thinking is to increase the probability of correct judgements and good outcomes, but many other factors affect outcomes besides critical thinking.<sup>29</sup>

Because the potential benefits and harms of different approaches to achieving participatory democracy are uncertain, they should be evaluated.

Before initiating this review, we examined relevant articles we had in our files,<sup>20,30</sup> conducted citation searches using Google Scholar, searched PubMed and Google Scholar for recent systematic reviews, and searched PROSPERO. Previous and ongoing research was summarised in the review protocol.

A review of patient and public engagement in decision-making regarding infectious disease outbreak management did not include any studies focused on the COVID-19 pandemic, and none of the included studies described meaningful patient participation.<sup>2</sup>

Systematic reviews with a broader focus have found limited evidence of the effects of public involvement in healthcare planning and policy.<sup>20,30-34</sup> Other systematic

reviews have explored multi-stakeholder activities to control COVID-19,<sup>35</sup> integrating citizen engagement into evidence-informed health policymaking,<sup>36</sup> citizen juries in health policymaking,<sup>37</sup> online citizen participation in deliberation and policymaking,<sup>38–40</sup> deliberative mini-publics,<sup>41–42</sup> approaches to broaden the diversity of consumers engaged in guideline development,<sup>43</sup> the effect of municipality size on political efficacy and participation, and evaluation tools for patient and public engagement in research and health system decision-making.<sup>44</sup>

The aim of this review is to inform decisions about how best to implement and/or facilitate public participation in deliberations and decisions about infection prevention and control measures.

The objectives of this review were to systematically review examples of public participation in decisions by governments and health authorities about how to manage the COVID-19 pandemic.

## METHODS

The methods for this systematic review are described in detail in the protocol.<sup>45</sup>

### Search methods

We searched Participedia 25–26 August 2022 for cases that include ‘Covid’ ([www.participedia.net](http://www.participedia.net)). We also searched relevant databases. See online supplemental appendix 1 for a full description of the search strategy.

### Selection criteria

More detailed selection criteria, including exclusion criteria, are described in the protocol.<sup>45</sup>

#### Types of studies

We included reports that describe public participation in deliberations or decisions by a government, public health authority or international agency about infection prevention and control measures during the COVID-19 pandemic, including case reports and any type of qualitative or quantitative evaluation.

#### Types of decision-making processes

We included reports that describe public participation in deliberative or decision-making processes by international agencies (eg, WHO), national, subnational (eg, provincial or state) or local (eg, municipal) governments or public health authorities (eg, institutes or departments).

#### Types of interventions

We included reports that describe methods used to consult, involve, collaborate with, or empower the public in deliberations or decisions about infection prevention and control measures (see [table 1](#)).

#### Types of outcome measures, language and publications

We did not include or exclude reports based on the reporting of outcomes, language or publication status.

**Table 1** Level of participation (adapted from IAP2)

Goal from the IAP2 spectrum of public participation	
Inform	Provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions
Consult	Obtain feedback on analyses, alternatives and/or decisions
Involve	Work directly with the public throughout the process to ensure that public concerns are understood and considered
Collaborate	Partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution
Empower	Place final decision-making in the hands of the public

IAP2, International Association for Public Participation.

### Selection of studies

Two review authors independently reviewed titles and abstracts for inclusion. Full texts of potentially relevant reports were retrieved and assessed against the selection criteria; any uncertainties were discussed and resolved through discussion with a second author. We used Covidence to screen search results from MEDLINE and other bibliographic databases. For Participedia and other sources, we used a spreadsheet.

We included reports meeting all the selection criteria. We resolved disagreements by consensus of the authors.

### Data extraction

For each included report, we extracted the following information:

- ▶ The purpose of the initiative.
- ▶ The context in which the initiative was implemented.
- ▶ The level or degree of participation (see [table 2](#)).
- ▶ The methods for participation (see [table 1](#)).
- ▶ Who participated, how they were recruited and the degree of substantive community inclusion in the participatory initiative.
- ▶ The decision-making process.
- ▶ Decision-making criteria (importance of the problem, effects and economic impacts of options, impacts on equity, and acceptability and feasibility of options<sup>19</sup>).
- ▶ Critical thinking.
- ▶ Evaluation.

One review author extracted data from each included report using a standard data-extraction form. A second review author checked the extracted data against the full report. Where possible and warranted, we contacted report authors to collect information that was missing from reports.

**Table 2** Categories of democratic innovations (based on Veri's categorisation of cases in Participedia)

Category	Participants	Communication	Output
Consensus processes	Restricted, representative and inclusive (eg, stratified random selection)	Interactive (face-to-face or online)	A consensus
Public meetings	Limited, not necessarily representative and inclusive (eg, election or appointment)	Interactive (face-to-face or online)	A count, vote or summary of the participants' views
Informal online processes	Voluntary	Informal online communication with little interaction	Support for a proposal
Voting (referenda or online voting)	Voluntary	No interaction	A decision

### Risk of bias

For formal evaluations that report outcomes, influence on decisions or recommendations, or effects (where a causal relationship is suggested between participation and an outcome), we intended to use the 'Risk Of Bias In Non-randomised Studies—of Interventions' (ROBINS-I) tool to assess the risk of bias,<sup>46</sup> however, it was not applicable to any of the formal evaluations included in this study.

In addition, we assessed whether the report authors provided adequate information regarding the context and setting to allow us to judge the applicability of the findings to other settings using TRANSFER.<sup>47</sup>

This protocol was registered with PROSPERO and published on zenodo.org.<sup>45</sup>

### Data synthesis

We undertook a structured synthesis.<sup>48</sup> To address the first question, we used a framework analysis,<sup>49</sup> guided in part by Veri's categorisation of cases in Participedia (table 2),<sup>50</sup> and following the stages of familiarisation, coding, charting and interpretation of the data.

### Patient and public involvement

In the protocol, we planned on inviting activists and practitioners in the Participedia community to comment on a draft of this protocol and to join an online discussion group where they could ask questions and make suggestions, and where we could present interim results and ask questions. Although we received feedback from some activists, we were unable to organise an online discussion group as planned to discuss the results.

### Reflexivity statement

All authors are academics and were not directly in engaging the public in decision-making processes regarding COVID-19 prevention and control measures. ADO was involved in making recommendations regarding the use of face masks.<sup>51 52</sup> All of the authors believe that public participation in deliberative and decision-making processes can potentially improve decisions, build trust, improve adherence and help to ensure transparency and

accountability, provided it is well planned and implemented.

### RESULTS

In total, we included 24 studies or case reports describing initiatives for public participation in decision-making about the management of COVID-19 (figure 1). We included two initiatives that were established prior to the COVID-19 pandemic to address climate change and explicitly addressed the impacts of the pandemic on climate action,<sup>53 54</sup> or the economic and social consequences of the COVID-19 pandemic.<sup>55</sup> A list of excluded initiatives and reasons for their exclusion can be found in online supplemental appendix 2.

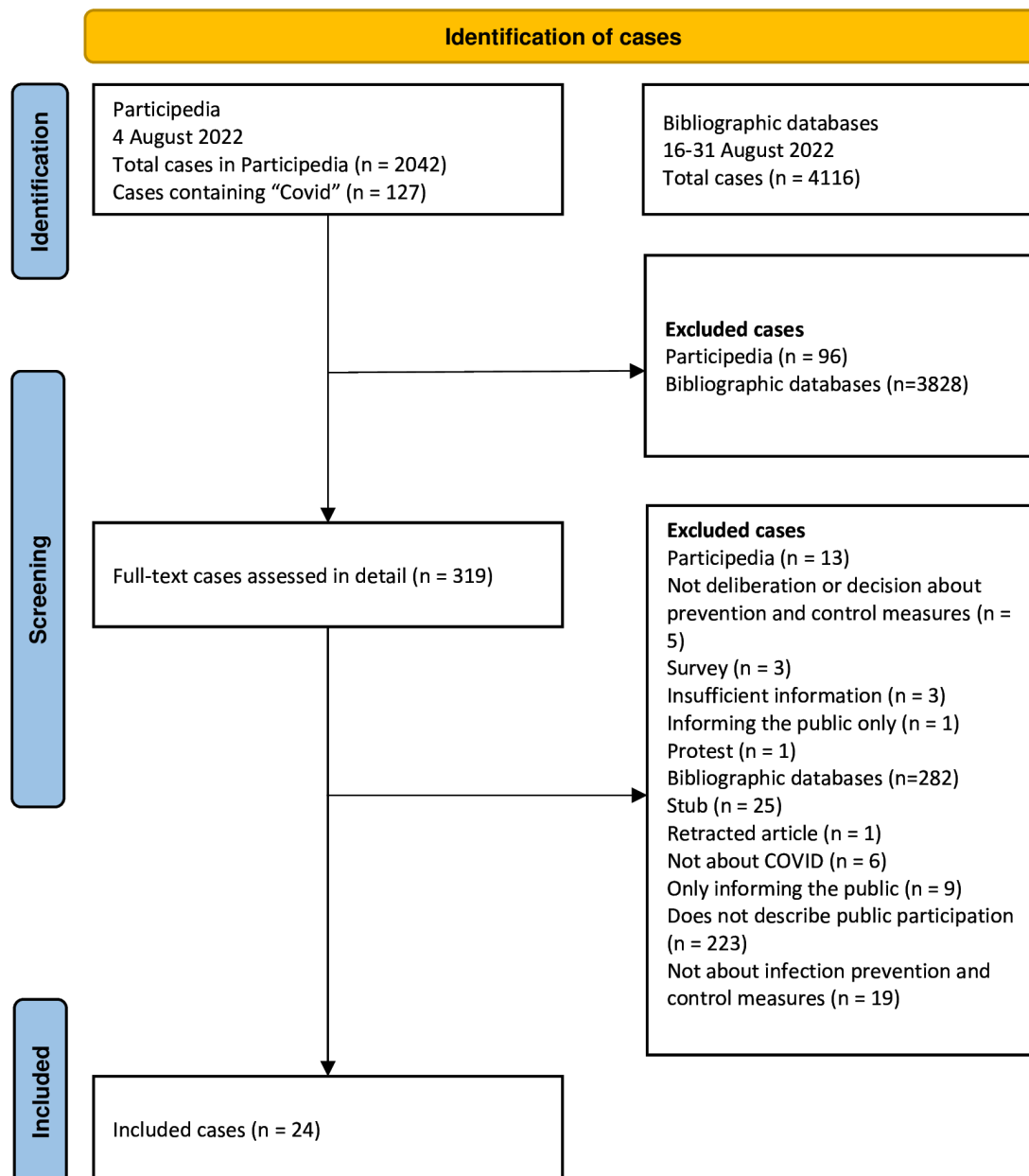
Almost all the included initiatives were in high-income countries (n=23), and most initiatives consulted citizens (n=17) (table 2). 17 of the initiatives were intended to consult citizens, three initiatives involved citizens, and four initiatives collaborated with citizens according to the IAP2 spectrum (see table 1 for definitions of the levels of participation).

Based on Veri's categorisation of cases in Participedia (table 1), we coded most (n=18) of the 24 initiatives as 'public meetings', one as a 'consensus process' and three as an 'informal online process' (online supplemental appendix 3).

### Decision-making and communication of results

Voting or polling was used in six of the initiatives (online supplemental appendix 3). A consensus process was used in five initiatives, and both consensus and voting were used in one. In one initiative, participants reviewed a report prepared by the organiser and in another, it is not clear how decisions were made. In the other 10 initiatives, no decisions were made by the participants.

11 reports were communicated directly to the government and five of those included presentations or interactions with politicians. It is unclear whether or how three of the reports were communicated to the government and no direct communication with the government was reported for two of the initiatives. Only two initiatives included a direct response by the government to proposals,<sup>55-61</sup> and we could not find the government's response to one of those.<sup>61</sup>



**Figure 1** PRISMA flow diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

### Decision-making criteria

11 initiatives did not make recommendations or decisions (online supplemental appendix 3). 17 initiatives made no mention of explicit decision-making criteria. The other seven initiatives developed, prioritised or used principles for decision-making. None of the initiatives developed or used a comprehensive set of criteria for recommendations or decisions about public health or health system decisions,<sup>26 27</sup> and none explicitly used a set of criteria to make judgements and recommendations. None included explicit criteria related to the size of the desirable and undesirable effects, the balance between the desirable and undesirable effects, or the cost-effectiveness of different options. Only one included a criterion related to the certainty of the evidence.

All but one of the seven initiatives that developed, prioritised or used principles for decision-making included one or more criteria related to impacts on equity. All but one also included one or more criteria related to the relative importance of different outcomes, but none of those addressed uncertainty or variability in how much people value those or other outcomes. Principles developed by two of the initiatives included principles related to communication or implementation of decisions, and one included a principle calling for innovation (without consideration of evidence or evaluation).

### Critical thinking

Although ‘critical thinking’ is sometimes defined more broadly,<sup>62</sup> we used Ennis’ definition here: critical thinking is reasonable reflective thinking focused on deciding

what to believe or do.<sup>63 64</sup> This definition captures the essence of why critical thinking is essential for making well-informed decisions. To think critically about interventions, people need to be able to understand and apply basic concepts (principles) for assessing the reliability of claims about effects, assessing evidence supporting those claims and making informed decisions. We looked specifically for support to understand and apply those concepts.

Only two initiatives included explicit support for thinking critically about the effects of interventions.<sup>65 66</sup> In the Scottish Parliament Citizens' Panel on COVID-19, an expert delivered a presentation to the participants about assessing evidence and applying critical thinking during the process.<sup>65</sup> In the Climate Assembly UK initiative, a professor of democratic politics presented on 'considering evidence'.<sup>66</sup>

Most reports did not explicitly discuss of the need for critical thinking by participants, but it was clear from the description of the initiative that participants were expected to make judgements about interventions that required critical thinking (n=21) (online supplemental appendix 3).

## Evaluation of effects

### Informal evaluation of effects

Only two initiatives reported informal evaluations of impacts on decision-making by the government (online supplemental appendix 3). The objective of one of these initiatives was to establish a citizen diagnosis of the COVID-19 crisis at the local level and make recommendations to elected officials.<sup>67</sup> The Citizens' Convention of Nantes was a first in France on the scale of a metropolis<sup>60</sup>: 'It made it possible to speed up the implementation of a territorial project by renewing ways of doing things. It reflects the community's desire to be the spearhead of a new metropolis model based on people, respect for the living and on a deeply cooperative and inclusive spirit.' One year after the Citizens' Convention, 102 commitments were made, a third (29) had been completed and 59 were in progress.

The objective of the other initiative that reported an informal evaluation of its impacts was to record community feedback to inform and adapt Red Cross and Red Crescent work and responses to COVID-19 in sub-Saharan Africa. The national societies reported using the community insights to inform and adapt their responses.<sup>68</sup>

### Formal evaluations of effects

11 initiatives were formally evaluated (online supplemental appendix 3). Three of those reported impacts. One reported impacts on assembly members, parliament and policy, the public and media.<sup>69 70</sup> One found that neither the field of expertise nor the order of hearings had systematic effects on participants' perceptions of containment measures.<sup>71 72</sup> This was interpreted as suggesting that interactive modes of expert hearings in mini-publics seem not to be prone to domination by experts. The third reported that the initiative directly enabled the early control of an outbreak by enabling

South Australia Health to stage a quick and targeted response and providing clear information.<sup>73</sup> The certainty of the evidence was low to very low for all three of these evaluations.

## Lessons learned

No lessons learnt were reported for six initiatives (online supplemental appendix 3). The lessons learnt from the remaining 18 initiatives are summarised below and presented under eight cross-cutting themes: power, successful engagement, online engagement, crowd-sourcing, understanding uncertainty, representation and legitimacy.

We identified findings related to power from evaluations of initiatives that sought to consult with the public and initiatives where there was collaboration with the public.<sup>71-75</sup> When participants are given adequate time and opportunity for interaction, citizens and experts can discuss topics on equal footing. Citizens are then able to respond with nuanced, informed and contextualised opinions and experts do not dominate the discussion.<sup>71-74</sup> This was not the case in all initiatives: An evaluation of the Oregon Citizens' Assembly on COVID-19 Recovery found that citizens were overall satisfied with pandemic information provided by the state government, but they reported that they did not have sufficient opportunities to share their input with the government.<sup>76</sup> In addition, the absence of decision-makers in public participation processes was seen as an obstacle to put in action suggestions from the community.<sup>75 77</sup> Evaluations of two of the initiatives<sup>53 54</sup> found important constraints on the impacts of the initiatives. These included the scope of the problem (climate change),<sup>69</sup> lack of a clear plan for how to deal with the assembly's recommendations or binding power,<sup>70</sup> the consultative nature of the initiative<sup>78</sup> and legal (constitutional) constraints.<sup>78</sup>

In initiatives focused on consulting or involving the public, some of the lessons learnt pertained to successful engagement. The included initiatives used different methods to identify, recruit and engage citizens. These included open calls (with a limitless number of self-selected participants), random selection of a limited number of participants, selection of a representative sample based on key characteristics, purposively selected samples to ensure representation of citizens with minority backgrounds) and restricting inclusion to citizens with minority or indigenous backgrounds. There appeared to be trade-offs when employing each of these methods. In initiatives with fewer participants, online engagement was easier to manage, and all participants could engage in a meaningful way. In initiatives with a greater number of participants, more voices were represented, but each person had less opportunity to engage meaningfully, and the usual group dynamics (dominating personalities, etc) were present. Where citizens were randomly or self-selected, there were concerns about their ability to represent the views of the wider community and the views of people from vulnerable or minority backgrounds may

not have the same opportunity to participate or engage. Where only citizens with minority backgrounds were involved, there was a missed opportunity to encourage dialogue between members of majority and minority groups and authorities.<sup>77</sup>

Citizens' motivation to participate was seen as conducive to the success of an (EU) initiative.<sup>79</sup> Facilitators need to present the initiative in a way that makes people want to participate.<sup>80</sup> This could be done by emphasising learning: 'One of the things we hear most often in feedback from deliberative events is that people enjoy the experience of learning. For most adults learning completely new topics just isn't part of their daily lives, so it's a stimulating and exciting process'.<sup>81</sup> Furthermore, clear objectives<sup>79</sup> and ample time<sup>79 82</sup> to discuss were also important factors for successful engagement. Finally, citizens should be provided with the necessary information beforehand in order to have a meaningful discussion.<sup>79 83</sup>

A lesson learnt from one initiative highlighted to the importance of understanding and considering uncertainty when engaging in public participation initiatives: '[i]nitially, participants struggled with the uncertainty of the subject matter. They found it difficult to say what they thought when there was so little concrete information about the virus or potential solutions. As the deliberation got underway, however, they began to see this uncertainty as a key part of their views'.<sup>74</sup>

Findings from some of the included initiatives discussed the challenges and benefits of online engagement (as opposed to in-person). In one initiative, the authors expressed concern about difficulty building relationships when using online processes.<sup>74</sup> Implementers of the French Climate Assembly highlighted that maintaining relationships between online meetings was important for participation.<sup>80</sup> Ensuring that facilitators are prepared for an online session was deemed important, but also not being too rigid during the session.<sup>74 80</sup> In one initiative, participants appreciated having access to notes after a discussion session.<sup>74</sup> A mini-public design can adapt to an emergency, even one in which meeting together face-to-face would present too great of a public health risk.<sup>84</sup> Online meetings are more difficult with more participants.<sup>84</sup>

Three initiatives used a crowdsourcing approach to engage the public and discussed the challenges and benefits of this method. Crowdsourcing ideas for how to address the concerns of, or communicate public health messages with, vulnerable, culturally and linguistically diverse or minority populations was seen to be cost-effective,<sup>85</sup> and to ensure that public health messages are more salient and understandable for the target audience. Crowdsourcing initiatives where information is developed by members of the target population are a good way to engage people with minority language or members of Aboriginal communities.<sup>85</sup> Post-code targeted Facebook advertising of these campaigns is a low-cost distribution strategy. Including support for implementing crowdsourcing campaign ideas can create longer-term

engagement than one-time engagement strategies.<sup>85</sup> To fully benefit from the creative contributions of crowdsourcing campaigns, future calls for responses to the COVID-19 pandemic could be formally incorporated into planning processes.<sup>85</sup>

Reports on several initiatives discussed representation and legitimacy either directly or indirectly. Findings of several evaluations of the Citizens' Convention on Climate in France addressed the representativeness of the convention. An investigation of participants' experiences of the Citizens' Convention on Climate in France based on responses to a questionnaire found that it was the health crisis that forced participants to take on the role of being representatives when the governance committee offered them to send the government some of their useful proposals for dealing with the COVID-19 pandemic. Because the measures had not yet been adopted by all the members, it was no longer simply a question of the Convention representing 'France in miniature'. The participants were cautious about assuming that they, as randomly selected citizens, could legitimately speak on behalf of the public.<sup>86</sup>

A case study drawing on parliamentary hearings and political reactions to the Citizens' Convention on Climate in France found that elected representatives may feel threatened by their legitimacy even when most randomly selected citizens do not see themselves as representatives.<sup>87</sup> The authors concluded that this suggests that future citizens' conventions could benefit from a clearer functional division between the two forms of representation.

## DISCUSSION

The COVID-19 pandemic had impacts on nearly everyone, yet our search yielded only 24 reports of initiatives that directly engaged citizens in pandemic management decisions. There were likely more than 24 democratic initiatives that directly engaged citizens in pandemic management decisions. However, it is not possible to know how many there were, how representative the included initiatives are, or what additional lessons might be learnt from other initiatives. Most (n=18) of the 24 cases included in our review came from Participedia. Participedia is a valuable resource, but many (32%) of the potentially relevant cases we screened had insufficient information, included cases were not up to date, links to source material frequently did not work, and it was necessary to search for additional information. On the other hand, a comprehensive search of bibliographic databases and screening over 4000 records yielded only six reports of additional initiatives.

Nonetheless, our study identified some lessons for developing future initiatives to facilitate public participation in pandemic management decision-making processes related to online engagement and participant recruitment, selection and engagement strategies, and engagement with marginalised and indigenous groups

can be used to develop future participation initiatives. Online discussions and crowdsourcing campaigns in particular may be cost-effective and efficient ways to engage relevant stakeholders in decision-making processes, but decision-makers should also be engaged in these processes in order to ensure real influence.

### Challenges in evaluating public participation initiatives

Our findings are in line with research on public participation published two decades ago: namely that there is a paucity of rigorously evaluated studies of public participation initiatives,<sup>12</sup> and these evaluations come almost exclusively from high-income settings. It is possible to evaluate public participation initiatives, however, including assessing elements of the participation process such as: whether and how ample time was provided for discussion, whether and how participants had the opportunity to challenge the information presented, and if and how mutual respect and concern for others was emphasised throughout deliberations.<sup>12</sup> Ultimately, evaluation studies should aim to evaluate whether and how the participation process led to better decisions and improved policy-making.

### Good practice in public participation

There are obvious trade-offs in how many citizens are engaged in decision-making, such as meaningful engagement versus legitimacy. An initiative may achieve more meaningful participation that includes components such as critical thinking with smaller groups, but the outcomes (decisions or recommendations) from such small groups of participants may not resonate with the broader population. Regardless of size, clarifying the objectives and process, as well as members of the public's roles and expectations may enhance both the experience and impact of participatory processes.

It appears to be feasible to engage citizens online during the pandemic and that participants valued the opportunity to have input into decision-making, including via crowdsourcing. However, there needs to be made efforts to make the public aware of opportunities to participate.

Involving citizens in decision-making processes requires a balance between developing an informed and engaged population who actively and effectively contribute to decision-making processes and ensuring that these citizens are not co-opted (formally or informally) by experts, politicians or others to promote a specific agenda. An informed population is, in part, dependent on citizens' ability to appraise the adequacy and quality of evidence presented to them, which in turn is supported by critical thinking skills. Conversely, public participation can be an arena by which to enhance social learning processes, where social learning is 'a community of people with diverse personal interests, but also common interests, who must come together to reach agreement on collective action in order to solve a mutual problem'.<sup>88</sup> A major component of social learning is cognitive enhancement, including critical thinking skills. However, almost none

of the included initiatives explicitly supported critical thinking. The lack of focus on critical thinking may limit the effectiveness of public participation and the quality of any recommendations or decisions that are made.

Within public participation initiatives there is also a need to consider, balance and develop a plan to address power dynamics and responsibilities among different groups of stakeholders (eg, policymakers and citizens). Challenges related to this can include considering: the desired or appropriate level of public engagement (eg, inform vs collaborate), policy makers' or elected representatives' perspectives on public participation (eg, do they feel threatened by such initiatives), whether there is a clear plan for how to deal with resulting decisions or recommendations, whether there is binding power of resulting decisions and/or legal constraints surrounding an initiative or decisions resulting from a public participation process. Previous research has found similar limitations in actual decision-making processes: 'While in theory, deliberative processes could be designed to guarantee binding decisions, in reality, the stakes are often too high to delegate this authority to a group of citizens and the public may not care to assume this level of decision-making authority'.<sup>12</sup>

### Equity, diversity and inclusion in public participation

Public participation is by its very definition intended to be an inclusive process whereby the voices and experiences of all individuals can be included in a decision-making process. However, marginalised groups, such as migrants, ethnic minorities and indigenous peoples are often under-represented in public participation initiatives.<sup>9</sup> This could be due to insufficient awareness of participatory opportunities, inadequate mobilisation endeavours, resource constraints or a misalignment between users' objectives and those favoured by advocates and facilitators of public participation.<sup>9</sup> Exclusion of minority groups from decision-making can lead to an oversight of alternative perspectives, reinforcement of dominant paradigms and diminishment of the capacity to make real change, while perpetuating inequity.<sup>9</sup> The lack of initiatives identified in this review aimed at specifically engaging marginalised in public participation initiatives corresponds with previous concerns related to legitimacy and representativeness.

Involving marginalised groups in participation via crowdsourcing, for example, may be a positive and valuable method for addressing the specific needs and wants of marginalised communities during the pandemic. Furthermore, crowdsourcing initiatives to convene information campaigns developed with and for marginalised communities in the included initiatives were viewed as successful whereby resulting campaigns were able to convey relevant and understandable information. Improved partnerships between public health services and marginalised communities can potentially help to identify and correct misinformation, improve



communication of reliable information and lead to better adherence to public health policies.

### Strengths and limitations

Strengths of this review include the availability of a published protocol describing the methods used, a comprehensive and broad search of the literature, and peer review of the protocol by experts in the field to ensure that the correct search terms were used, and relevant data were extracted from included studies. Two limitations of this review are that we were not able to include all potentially relevant initiatives due to insufficient detail, and that only one author extracted data from reports of most of the included initiatives (although two authors extracted data for at least 10% of the included initiatives and a standardised data-extraction form was used to help prevent errors and ensure that data were extracted consistently).

### CONCLUSION

Citizen engagement is crucial for enhancing the quality and acceptability of decision-making processes. The COVID-19 pandemic required quick decisions using a limited and rapidly developing evidence base for a wide variety of interventions. This, together with social distancing and remote working, made public participation inherently difficult both in terms of timing and logistics. Despite adaptations to these barriers, the number of public participation initiatives did not appear to increase as the pandemic progressed. The findings from this review can guide future initiatives by emphasising the need for systematic and transparent evaluations, structured decision-making processes, support for critical thinking, effective communication of results and ensuring decision-makers consider and respond to the results.

Future research should address improved reporting of public participation initiatives, the use of explicit decision-making criteria, support for critical thinking about the effects of interventions, engagement of marginalised groups, engagement of decision-makers, communication with the broader public and evaluation of both desirable and undesirable impacts of public participation initiatives.

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