JAMA Health Forum™

Special Communication

Expert Panel Consensus on State-Level Policies to Improve Engagement and Retention in Treatment for Opioid Use Disorder

Rosanna Smart, PhD; Sean Grant, Dphil; Adam J. Gordon, MD, MPH; Rosalie Liccardo Pacula, PhD; Bradley D. Stein, MD, PhD

Abstract

IMPORTANCE In the US, recent legislation and regulations have been considered, proposed, and implemented to improve the quality of treatment for opioid use disorder (OUD). However, insufficient empirical evidence exists to identify which policies are feasible to implement and successfully improve patient and population-level outcomes.

OBJECTIVE To examine expert consensus on the effectiveness and the ability to implement state-level OUD treatment policies.

EVIDENCE REVIEW This qualitative study used the ExpertLens online platform to conduct a 3-round modified Delphi process to convene 66 stakeholders (health care clinicians, social service practitioners, addiction researchers, health policy decision-makers, policy advocates, and persons with lived experience). Stakeholders participated in 1 of 2 expert panels on 14 hypothetical state-level policies targeting treatment engagement and linkage, evidence-based and integrated care, treatment flexibility, and monitoring or support services. Participants rated policies in round 1, discussed results in round 2, and provided final ratings in round 3. Participants used 4 criteria associated with either the effectiveness or implementability to rate and discuss each policy. The effectiveness panel (n = 29) considered policy effects on treatment engagement, treatment retention, OUD remission, and opioid overdose mortality. The implementation panel (n = 34) considered the acceptability, feasibility, affordability, and equitability of each policy. We measured consensus using the interpercentile range adjusted for symmetry analysis technique from the RAND/UCLA appropriateness method.

FINDINGS Both panels reached consensus on all items. Experts viewed 2 policies (facilitated access to medications for OUD and automatic Medicaid enrollment for citizens returning from correctional settings) as highly implementable and highly effective in improving patient and population-level outcomes. Participants rated hub-and-spoke–type policies and provision of financial incentives to emergency departments for treatment linkage as effective; however, they also rated these policies as facing implementation barriers associated with feasibility and affordability. Coercive policies and policies levying additional requirements on individuals with OUD receiving treatment (eg, drug toxicology testing, counseling requirements) were viewed as low-value policies (ie, decreasing treatment engagement and retention, increasing overdose mortality, and increasing health inequities).

CONCLUSIONS AND RELEVANCE The findings of this study may provide urgently needed consensus on policies for states to consider either adopting or deimplementing in their efforts to address the opioid overdose crisis.

JAMA Health Forum. 2022;3(9):e223285. doi:10.1001/jamahealthforum.2022.3285

Key Points

Question What is expert consensus on effective, implementable, and equitable state-level opioid use disorder (OUD) treatment policies?

Findings Experts identified 2 high-value policies: facilitated access to medications for OUD and automatic Medicaid enrollment on returning from correctional settings. In contrast, experts identified 4 low-value policies as ineffective, difficult to implement, and inequitable: coerced drug treatment, involuntary civil commitment, drug toxicology testing requirements, and office-based buprenorphine treatment counseling corequirements.

Meaning The results suggest that collaborative efforts that support high-value policies and bring attention to the dangers of low-value policies can help states address the overdose epidemic through engagement and retention in OUD treatment.

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

Introduction

Despite broad efforts to address the opioid crisis, opioid-related overdose deaths reached a record high of 75 673 during the 12-month period ending in April 2021, which was up nearly 30% from the previous year.[1] A cornerstone of the national strategy to mitigate the crisis is improving access to effective treatment for opioid use disorder (OUD), particularly medications for OUD (MOUD), and ensuring the provision of high-quality treatment to achieve equitable outcomes for vulnerable populations. During the past decade, federal, state, local, and organizational efforts have expanded the number of clinicians offering MOUD,[2,3] strengthened collaborative care models,[4,5] and allowed for more flexible treatment processes.[6] However, substantial barriers to MOUD persist. In 2019, fewer than 20% of people with OUD reported receiving MOUD,[7] and structural, systemic, and institutional barriers yielded large disparities by race and ethnicity, income, and geography.[8,9]

While MOUD improves treatment retention, reduces opioid misuse, and is associated with decreased overdose rates, recidivism, and opioid-related hospitalization,[10-14] it is more challenging to assess the effectiveness of state-level policies intended to improve treatment engagement and retention at the population level. First, state-level treatment policies are complex, composed of multiple overlapping components, and inherently difficult to measure or classify.[15] Second, real-world data linking treatment receipt to treatment outcomes (both patient level [eg, retention, OUD remission] and population level [eg, opioid-related overdose rates]) are commonly limited to a single jurisdiction or insured population, limiting generalizability, or are characterized by unknown quality or missingness.[16] Finally, state-level policies are not always effectively implemented on the ground,[17,18] and these difficult-to-measure aspects of implementation are key moderators for associations with patient and population-level outcomes.[19] Partially because of these challenges, existing evidence for how state-level treatment policies are associated with treatment and subsequent health outcomes is generally mixed or incomplete[20,21]; studies exploiting state variation in treatment policies often fail to differentiate policy adoption from implementation or ignore other state or federal barriers to implementation.[22,23] Given the importance of high-quality, evidence-based treatment for addressing rising rates of opioid-related morbidity and mortality, there is an urgent need to better understand which state-level OUD treatment policies are effective in addressing opioid-related harms and are implementable based on decision-making criteria that are important to policy makers.[24]

To address this need, we conducted an online modified Delphi process to identify expert consensus on the effectiveness and implementability of different components of state-level OUD treatment policies. Delphi panels, which have been used to characterize effective alcohol policies,[25] drug policies,[26] and pain management strategies,[27] are a prominent and rigorous method for eliciting expert consensus to generate guidance on health-related policies in the absence of sufficiently conclusive scientific evidence for decision-making.[25,28]

Methods

We concurrently conducted 2 online modified Delphi panels with no overlap in participants: 1 focused on policy effectiveness (effectiveness panel), and 1 focused on policy implementability (implementation panel). As detailed later, our conceptualizations of effectiveness and implementability are based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Evidence to Decision (EtD) frameworks,[24] which aim to structure policy and practice decision-making around evidence on and stakeholder perceptions of several important criteria. Specifically, the GRADE EtD framework for health systems and public health is designed to help panels make recommendations to policy makers responsible for making decisions on behalf of a population that will be affected by those decisions.[29]

Both panels used prospectively registered research protocols, plans, and materials (available at: https://osf.io/3vuq6/). The study was ruled exempt by the institutional review board of the RAND

Corporation, and the study followed the Standards for Reporting Qualitative Research (SRQR) reporting guideline for qualitative studies.[30]

Participants

We identified and recruited experts using a multipronged strategy. First, we developed a list of health care clinicians, social service practitioners, addiction researchers, health policy decision-makers, policy advocates, and persons with lived experience based on published research, suggestions from the project's advisory board, and member lists of relevant organizations. A snowball sampling approach then allowed experts to nominate further participants. We aimed to recruit 20 to 40 participants per panel, allowing sufficient diversity of perspectives and experience in OUD treatment policy.[31] All identified and nominated experts received an email asking them to indicate willingness to participate in the online modified Delphi process. Interested experts completed an online registration survey providing informed consent, self-reported demographic data (ie, race and ethnicity, gender, professional role, and state of residence), and indicated whether they preferred participating in the effectiveness panel or implementation panel. Experts participated in their preferred panel; we assigned experts with no preference to panels in a manner that optimized balance on demographic variables. Participants received a $300 gift card or prepaid debit card for panel completion.

Design

Panels involved a validated, 3-round approach using the RAND ExpertLens online platform.[26,32] This approach involves 2 rating rounds, with a round of online group discussion and feedback in between. We pilot-tested ExpertLens for this data collection protocol with 2 experts and the ExpertLens team before conducting the panels. The 3 rounds took place from July to September 2021; each round allowed participants up to 3 weeks to provide responses.

In round 1, experts reviewed, rated, and commented on 14 state-level policies to improve OUD treatment engagement and retention (see **Table 1** for definitions). Through an iterative process with the project team and advisory board, we selected these from a broader list of proposed or implemented state-level policies relevant for linkage to and retention in MOUD (eMethods in the Supplement).

Outcome rating criteria were based on the GRADE EtD framework used by the World Health Organization to make health policy recommendations.[24] In the effectiveness panel, experts rated the effect (direction and magnitude) of each policy on treatment engagement, treatment retention, OUD remission, and opioid-related overdose mortality using a 9-point Likert scale, from 1 (very large decrease) to 9 (very large increase). In the implementation panel, experts rated each policy on the GRADE feasibility, acceptability, affordability, and equitability implementation criteria, which comprise key determinants of implementing policy changes.[33] Experts used a 9-point Likert scale, from 1 (not at all) to 9 (extremely acceptable, feasible, affordable, or equitable). The **Box** provides definitions that were presented to participants.

In round 2, experts were shown group frequency histograms describing how each expert's round 1 responses compared with the group's (eFigure 1 in the Supplement). We also displayed summaries of thematic analyses of round 1 comments next to each chart. Experts then discussed round 1 results using asynchronous, anonymous, online discussion boards, which 2 of the authors (R.S. and S.G.) moderated. In round 3, informed by round 1 results and round 2 discussion, experts independently provided final ratings for each policy's effectiveness and implementability.

Statistical Analysis

As in previous ExpertLens panels,[27,34] we identified consensus decisions on policy effectiveness and implementability by applying the 3-step analytical approach outlined in the RAND/UCLA Appropriateness Method user manual (eMethods in the Supplement).[35] We first determined whether disagreement existed among participants using calculated disagreement index (DI) scores,

which indicate a lack of consensus on a policy for a given effectiveness outcome or implementation criterion. If no disagreement existed, the round 3 median determined the consensus expert opinion. In the effectiveness panel, scores less than 5 indicated that the policy reduced the outcome (lower scores indicating larger reductions), scores higher than 5 indicated the policy increased the outcome (higher scores indicating larger increases), and score of 5 indicated the policy had no effect (no average reduction or increase of the outcome). In the implementation panel, scores of 1 to 3 indicated low, 4 to 6 moderate, and 7 to 9 high acceptability, feasibility, affordability, and equitability. Finally, to explore robustness, we conducted sensitivity analyses using round 1 ratings to impute round 3 responses for participants who did not complete round 3.

Descriptive analyses of participant ratings characterized the distribution of group responses from each round and estimated changes in group and individual responses between rounds. Next,

Table 1. Opioid Use Disorder Treatment Policies

Policy	Definition
Policies targeting engagement with and linkage to treatment	
Emergency department treatment-linkage financial incentives policies	Emergency department treatment-linkage financial incentives policies provide monetary performance incentives to hospitals that can attest to the following for patients with a diagnosis of OUD admitted to an emergency department (but not to inpatient): (1) initiated buprenorphine treatment during the emergency department encounter, and (2) provided a warm handoff to outpatient treatment.
Facilitated access to medication for OUD requirements	Facilitated access to medication for OUD requirements mandate that all substance use disorder treatment programs in the state facilitate access to medication for OUD through: (1) direct provision of the medication (ie, buprenorphine, methadone, or naltrexone), (2) contracting with private prescribing professionals, or (3) linkage agreements with other office-certified programs. Such agreements must ensure access sufficient to meet patient needs without undue barriers, such as long waiting periods for appointments or waiting lists.
Medicaid enrollment for individuals leaving jail or prison	Medicaid enrollment for individuals leaving jail or prison requires that correctional personnel initiate Medicaid applications or assist with Medicaid application information to individuals nearing release from incarceration, or that Medicaid managed care entities collaborate with correctional personnel to coordinate the discharge and transition of enrollees following release from a correctional facility.
Coerced drug treatment policies	Coerced drug treatment policies legally compel an individual to participate in and comply with treatment for OUD as an alternative to another form of sanction (eg, incarceration, loss of child or custody, loss or receipt of employment or benefits).
Involuntary civil commitment laws	Involuntary civil commitment laws state statutes that allow family members, health care practitioners, or other persons to seek court-mandated treatment for an individual who poses a substantial threat of harm to self (eg, by overdose) or others as a result of their substance use. This policy does not require a concomitant criminal justice case and does not include laws that only apply to serious mental illness (with a definition of mental illness that does not include substance use).
Policies to promote evidence-based and integrated care	
Hub-and-spoke-type policies	Hub-and-spoke-type policies direct state and/or federal funding to implement multiple geographically based coordinated care networks in which patients receive short-term intensive (inpatient or outpatient) care until stabilized, and then are referred to other outpatient practices for supportive services and medication for OUD in primary care settings or community-based practices. Each network forms a system of care with a primary organizing agency (hub) that identifies, collaborates, and subcontracts with a network of substance use and mental health treatment clinicians (spokes) to provide integrated medication treatment care.
Pay-for-performance policies	Pay-for-performance policies make additional payments to medical and behavioral health care providers for improving the quality and value of the OUD treatment they are giving. Supplemental payments above the negotiated price for services are made through public and/or private health insurers to the clinicians based on predefined proportions of their client population meeting specific benchmarks in the treatment process (eg, early engagement and retention in OUD treatment; engagement and/or retention on medication for OUD for 6 mo).
State Medicaid agency approval of collaborative care model reimbursement codes	State Medicaid agency approval of collaborative care model reimbursement codes formally integrates new *Current Procedural Terminology* codes to fund the collaborative care model in primary care settings. The codes are designed to reimburse billing practitioners (typically the primary care clinician) for the cumulative time the health care team spends delivering components of collaborative care each calendar month, up to 130 min during the initial month and 120 min in subsequent months.
Telemedicine-based collaborative care policies	Telemedicine-based collaborative care policies direct state and/or federal funding to implement collaborative care models for treatment of OUD in which an off-site team of specialty trained addiction clinicians collaborates with onsite primary care providers and their patients from a centralized location using telephones, interactive video, and electronic health records.
Policies to allow flexible or longer-duration treatment	
State medication for OUD drug formulary mandates	State medication for OUD drug formulary mandates require that insurers (private and public) include at least 2 FDA-approved medication types for OUD (eg, methadone and buprenorphine) on the preferred drug list or their drug formularies.
Length of time Medicaid covers medication for OUD	State Medicaid provides coverage of medication for OUD for at least 6 mo.
Full state scope-of-practice laws	Full state scope-of-practice laws allow advanced-practice clinicians, such as nurse practitioners and physician assistants, to prescribe medication treatment for OUD independently (ie, without a requirement for a collaborative agreement or postlicensure supervision).
Policies for ongoing monitoring and support services	
Drug toxicology testing requirements	Drug toxicology testing requirements mandate that providers of medication treatments for OUD conduct at least 6 drug screens from patients in order to guide treatment planning.
Office-based buprenorphine treatment counseling corequirement laws	Office-based buprenorphine treatment counseling corequirement laws require patients receiving buprenorphine in the office-based setting to receive counseling. The state law does not explicitly protect against termination of buprenorphine treatment because of counseling nonadherence.

Abbreviations: FDA, US Food and Drug Administration; OUD, opioid use disorder.

following prior work,[27,34] we thematically analyzed all expert comments to contextualize consensus decisions; we grouped all comments by policy and question, ordered comments within groupings by numerical ratings, thoroughly read and reread the material, conducted line-by-line coding, and inductively generated themes.

Results

Of the 109 experts approached, 66 (61%) participated in at least 1 round of either the effectiveness panel (30 [45.5%]) or implementation panel (36 [54.5%]). Most experts identified as women (39 [59%]), White Non-Hispanic (50 [76%]), researchers (35 [53%]), or health care clinicians (18 [27%]) and residing in the Northeast (27 [41%]). Expert characteristics had similar distributions across both panels except for greater geographic diversity in the implementation panel (**Table 2**). Round 3 completion rates were 83% and 75% for the effectiveness and implementation panels, respectively. Ratings and consensus did not significantly differ in sensitivity analysis imputing missing round 3 ratings from round 1 responses (eTables 1 and 2 in the Supplement), ratings generally corresponded with conceptual mechanisms of policy action (eg, higher treatment retention was associated with lower opioid-related mortality; eTable3 in the Supplement), and ratings across rounds also showed significant within-participant correlation for all outcomes (eTable 4 in the Supplement). While most participants changed at least 1 rating across a meaningful threshold from round 1 to round 3 (eTable 5 in the Supplement), such changes were rare, most items did not have any participants make such a change, and the distribution of ratings remained highly similar across rounds (eFigures 2 and 3 in the Supplement). Additionally, there was no disagreement in round 1, and only 3 policies (emergency department linkage, Medicaid enrollment for individuals leaving correctional settings, and hub-and-spoke–type policies) saw a change in consensus decision from small reductions to moderate-to-large reductions in fatal opioid-related overdose between rounds.

Round 3 quantitative results are summarized in **Figure 1** and **Figure 2**. Participants reached consensus on all effectiveness outcomes and implementation criteria across all policies (ie, there was not significant disagreement among expert ratings in round 3). Of the 14 policies considered, experts identified 2 as high-value policies that are implementable on all criteria and likely to have sizeable positive effects on treatment engagement, treatment retention, and overdose mortality: requiring treatment facilities to provide or offer linkage to MOUD and Medicaid enrollment for individuals leaving jail or prison. Experts also identified 2 policies (drug toxicology testing requirements and office-based buprenorphine treatment counseling corequirement laws) as low value (ie, likely to be negatively affect all outcomes, having only moderate feasibility and affordability) and likely to increase inequities. Expert consensus on the remaining policies varied. Herein, we provide detailed descriptions of each panel's rating results, with qualitative findings providing additional context.

Effectiveness Panel Findings

The median expert rating varied across policies for each outcome (Figure 1): experts identified at least 1 policy that positively affected and at least 1 that negatively affected treatment engagement, treatment retention, OUD remission, and opioid-related overdose mortality. Across all policies, within-participant correlations were consistent with the cascade of care for OUD[36]: treatment engagement, retention, and OUD remission were significantly positively associated with each other, and all were significantly negatively associated with opioid-related overdose mortality (eTable 3 in the Supplement). As one participant noted, "Any increase in engagement gives more people the opportunity to be retained in care and thus be at reduced risk of overdose mortality."

Of the 14 policies, experts rated 9 as yielding moderate-to-large increases in treatment engagement, with 3 policies further yielding moderate increases in treatment retention and subsequent moderate reductions in fatal opioid-related overdose: facilitated access to MOUD, Medicaid enrollment for citizens returning from correctional settings, and hub-and-spoke–type policies. Experts noted that these 3 policies uniquely affect fatal opioid-related overdoses because

Box. Outcome Definitions Presented to Panelists

Effectiveness Panel

- OUD treatment engagement: percentage of people meeting the criteria for an OUD diagnosis who receive 2 or more OUD treatment services (including medication for OUD) within 34 days of initiating treatment
- OUD treatment retention: percentage of people meeting the criteria for an OUD diagnosis who remain continuously enrolled in OUD treatment services for at least 6 months
- OUD remission: percentage of people meeting the criteria for an OUD diagnosis who do not experience OUD symptoms (other than craving/desire/urge for opioids) for at least 12 months
- Opioid overdose mortality: per capita rates of fatal overdose associated with opioids, including opioid analgesics (eg, oxycodone), illegal opioids (eg, heroin), and synthetic opioids (eg, fentanyl)

Implementation Panel

- Acceptability: the extent to which the policy is acceptable to the general public in the state or community where the policy has been enacted
- Feasibility: the extent to which it is feasible for a state or community to implement the policy as intended
- Affordability: the extent to which the resources (costs) required to implement the policy are affordable from a societal perspective
- Equity: the extent to which the policy is equitable in its effect on health outcomes across populations of people who use opioids

Abbreviation: OUD, opioid use disorder.

they target linkages to treatment: "increasing the number of people exposed to effective interventions should result in a reduction in overdose risks." Experts particularly emphasized the importance of facilitating supportive, patient-centered, and harm-reduction measures focused on access to MOUD. Experts also stressed explicitly focusing on high-risk populations and periods is an effective policy lever for preventing overdose mortality: "given the extremely high risk of overdose following release and the challenges of access to treatment following incarceration, notably from lack of insurance, this [policy] is likely to substantially reduce risks of fatal overdose."

Experts identified 2 policies as having harmful effects on treatment outcomes or opioid-related overdose mortality: requirements for drug toxicology testing and requirements for counseling during office-based buprenorphine treatment. In addition, coerced drug treatment and involuntary civil commitment laws were expected to yield only small increases in treatment engagement, with little to no association with retention, OUD remission, and fatal overdose. Experts consistently explained that these policies often result in punitive implementation focused narrowly on abstinence rather than harm reduction, as one commented: "I have also witnessed toxicology testing being used as a mindless test for abstinence and a tool to punish in both the criminal legal systems and addiction treatment systems." Others noted how these requirements can serve as barriers to accessing evidence-based treatments, with one commenting on counseling corequirements: "If lack of counseling leads to lack of access to or premature discontinuation of medication, such laws would have a negative impact on mortality."

Table 2. Participant Characteristics and Completion Rates

	No. (%)		
Characteristic	Total	Effectiveness panel	Implementation panel
No. of participants	66	30	36
Gender			
Woman	39 (59)	17 (57)	22 (61)
Man	24 (36)	12 (40)	12 (33)
Missing	3 (5)	1 (3)	2 (6)
Race and ethnicity			
Asian	4 (6)	1 (3)	3 (8)
Black, Non-Hispanic	6 (9)	4 (14)	2 (6)
Hispanic	2 (3)	1 (3)	1 (3)
White, Non-Hispanic	50 (76)	23 (77)	27 (75)
Missing	4 (6)	1 (3)	3 (8)
Region of residence[a]			
Northeast	27 (41)	12 (40)	15 (42)
Midwest	7 (11)	2 (7)	5 (14)
South	25 (38)	14 (47)	11 (31)
West	7 (11)	2 (7)	5 (14)
Role			
Researcher	35 (53)	16 (53)	19 (53)
Policy maker	4 (6)	2 (7)	2 (6)
Health care clinician	18 (27)	8 (27)	10 (28)
Human/social service provider	2 (3)	1 (3)	1 (3)
Advocate	4 (6)	2 (7)	2 (6)
Missing	3 (5)	1 (3)	2 (6)
Completion rate[b] by round			
Round 1	63 (95)	29 (97)	34 (94)
Round 2	55 (83)	26 (87)	29 (81)
Round 3	52 (79)	25 (83)	27 (75)

[a] Missing region of residence (n = 3) assigned based on participant's institutional affiliation.

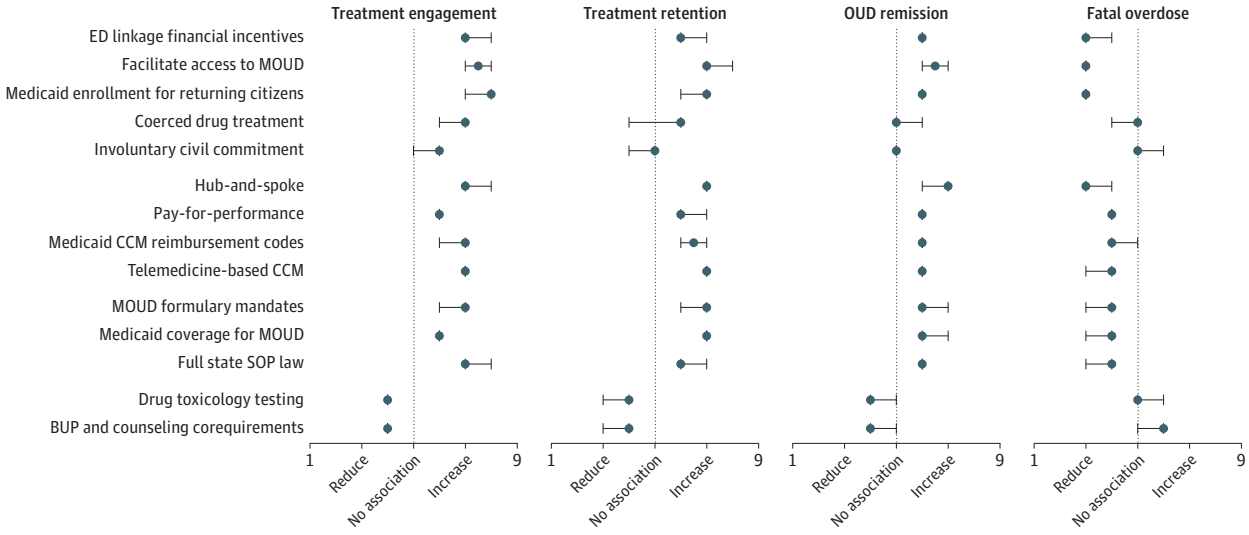
[b] Completion for round 1 was defined as answering more than 90% of the 56 round 1 items; completion for round 2 was defined as logging into the round 2 discussion forum; and completion for round 3 was defined as answering more than 90% of the 56 round 3 items.

Implementation Panel Findings

The median expert rated all policies as either moderate or high on acceptability and feasibility (Figure 2). However, panelists commented that the stigma of OUD (and MOUD by extension) is a major barrier to optimal policy design, frequently noting that, while stigmatizing beliefs prompted high public acceptability of coercive and abstinence-focused policies, the panelists themselves viewed these policies as punitive, paternalistic, and unacceptable.

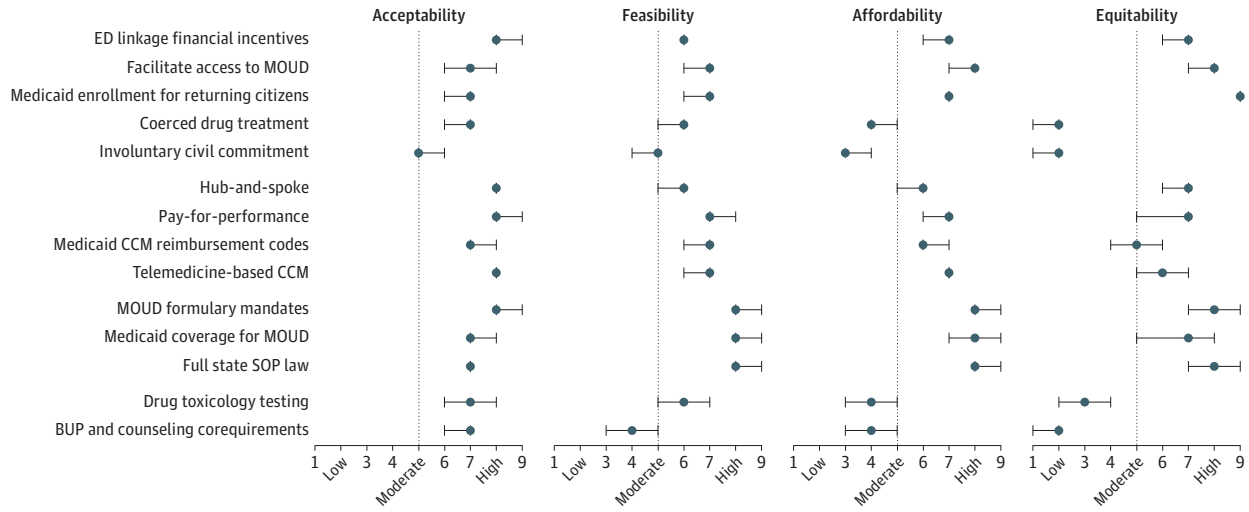
Six policies were rated as highly implementable across all 4 GRADE feasibility, acceptability, affordability, and equitability criteria: facilitated access to MOUD, Medicaid enrollment for returning

Figure 1. Round 3 Median Ratings and Dispersion by Outcome, Effectiveness Panel



Markers represent the median round 3 rating, and bars are the interpercentile range from the 30th to 70th percentile. Panelists rated items on a scale of 1 to 9, with scores of 1 to 4 indicating the policy decreases the outcome, a score of 5 indicating no association, and scores of 6 to 9 indicating the policy increases the outcome. CCM indicates collaborative care model; ED, emergency department; MOUD, medications for opioid use disorder; OUD, opioid use disorder; SOP, scope of practice.

Figure 2. Round 3 Median Ratings and Dispersion by Outcome, Implementation Panel



Markers indicate median round 3 rating. Bars indicate the interpercentile range from the 30th to 70th percentile. Each panelist rated items on a scale of 1 to 9, with scores of 1 to 3 indicating low acceptability, feasibility, affordability, or equitability; scores of 4 to 6 indicating moderate acceptability, feasibility, affordability, or equitability; and scores of 7 to 9 indicating high acceptability, feasibility, affordability, or equitability. CCM indicates collaborative care model; ED, emergency department; MOUD, medication for opioid use disorder; SOP, scope of practice.

citizens, pay for performance, MOUD formulary mandates, Medicaid coverage for MOUD, and full state scope-of-practice laws. The latter 3, which target more flexible and longer duration care, received the highest ratings for feasibility and affordability because of established precedent of making such changes to the scope of practice and Medicaid coverage, combined with societal cost-savings of improving long-term access to effective treatments. The MOUD formulary mandates and pay for performance received the highest ratings for acceptability because of public support of insurance covering medications without prior authorizations and the perceptions of value-based care as being merit based. Medicaid enrollment for returning citizens received the highest median rating for equitability given its explicit focus on marginalized populations and a vulnerable transition period.

Four policies were expected to exacerbate disparities in health outcomes. Policies requiring drug toxicology testing or counseling, as well as coerced drug treatment or involuntary civil commitment, were considered least equitable and to have relatively low feasibility and affordability. However, panelists noted the difficulties of rating equitability with limited information on implementation: "If well implemented it [the policy] should increase access to treatment for many people who have OUD, however, unless it has explicit programming and protections built in to engage and make accessible to groups historically excluded from care, including Black, Latinx, and Native American populations, then there is a substantial risk that it will exacerbate underlying racial and ethnic inequities." Several experts also expressed that, without a deliberate equity-centered approach, policies would likely reinforce accumulations of unjust societal advantages: "I questioned its equity…because it will likely best be capitalized on by those with the most access to resources." Others noted that, given historic systemic inequities, even policies likely to enhance equity would have little effect unless accompanied by substantial efforts on the ground within communities.

Furthermore, experts identified involuntary civil commitment laws as unaffordable, with one noting, "to provide high-quality treatment is particularly expensive and difficult, if impossible, to pull off when the treatment is coercive. More commonly, these programs funnel money to the criminal legal system with resulting low quality/no treatment and hinge on locking people up more than treating them."

Discussion

There was substantial consensus on the effectiveness and implementability of all 14 state-level OUD treatment policies evaluated. However, only 2, facilitated access to MOUD and automatic Medicaid enrollment for citizens returning from correctional settings, were considered highly implementable, effective, and equitable. Recently, there has been substantial activity around such policies. Legislation was introduced in Congress to extend Medicaid eligibility to individuals being released from incarceration[37]; several jurisdictions have suspended rather than terminated Medicaid eligibility for individuals who become incarcerated, facilitating continuous health care coverage on release[38,39]; 8 states now have policies requiring substance use treatment facilities to provide multiple forms of MOUD.[40]

However, panelists were somewhat less enthusiastic about other policies being pursued in many jurisdictions. For example, while many states have sought to implement some type of hub-and-spoke model to support primary care provision of buprenorphine,[41] panelists believed that such approaches could potentially improve outcomes but also often face implementation challenges because of affordability and feasibility. Such concerns echo financial, infrastructural, and geographic issues documented in the evolving literature on such programs.[42,43] Similarly, there have been substantial efforts to encourage linkage to MOUD for individuals being treated in emergency departments, with several states seeking to support such initiatives.[44,45] The panelists also raised questions about the feasibility of such approaches because of coordination and infrastructure complexities. Overall, the study results suggest that the success of these models hinges on careful consideration of infrastructure requirements, necessitating that policy efforts supporting such models are accompanied by sufficient investment in the requisite infrastructure.

Well-intentioned opioid-related policies can have unintended consequences,[46-48] and panelists identified several policies that may have detrimental effects. Specifically, there was a consensus that coercive treatment policies would not only be ineffective but would also increase inequities and require substantial resources. There were similar concerns regarding policies requiring drug toxicology testing and counseling corequirements for individuals receiving treatment with buprenorphine. While such services may be clinically appropriate for some patients,[49,50] there appeared to be expert consensus that removing such decisions from clinicians and patients would have little benefit.

Limitations

Our study had several limitations. First, to reduce participant burden, we limited our scope to 14 policies primarily focused on linkage and retention. While this approach was associated with a high retention rate for Delphi processes,[26,31,51,52] we did not capture other important mechanisms, such as treatment capacity. Second, while we aimed to capture a diverse range of perspectives, the panelists were largely non-Hispanic White and self-identified as researchers, with a potential bias toward research evidence rather than direct experience with policies as rationale for ratings. Additionally, while we used a purposive and snowball approach to identify a sample reflecting expertise in OUD treatment policy and practice, the sampling approach was not designed to be representative of any particular population. A replication of this panel with a different group (eg, a higher percentage of policy makers, policy implementers, and people who use drugs) may yield different consensus, particularly for implementation. Finally, the online nature of the panels, while potentially allowing more perspectives to be captured and reducing participant burden, may not have allowed panelists to get into as much depth on any given area as they would have in a smaller, in-person setting; this tradeoff may have been particularly important for deeper understanding of aspects associated with feasibility of implementation and equitability of outcomes. Recognizing these limitations, this study represents the first effort to our knowledge to systematically identify expert consensus on which OUD treatment policy components have beneficial effects and are feasible to implement.

Conclusions

This study provides expert consensus on policies for states to potentially consider either adopting or deimplementing in their efforts to address the overdose epidemic. It also highlights the need for decision-makers to be proactive in centering the design of these policies on health equity and deliberately dismantling oppressive structures and systems as central to policy implementation. Collaborative efforts among decision-makers and stakeholders that support high-value policies and bring attention to the dangers of low-value policies can help states address the overdose epidemic through engagement and retention in OUD treatment.

ARTICLE INFORMATION

Accepted for Publication: August 2, 2022.

Published: September 23, 2022. doi:10.1001/jamahealthforum.2022.3285

Corresponding Author: Rosanna Smart, PhD, Economics, Sociology, and Statistics Department, RAND Corporation, 1776 Main St, Santa Monica, CA 90401 (rsmart@rand.org).

Author Affiliations: Economics, Sociology, and Statistics Department, RAND Corporation, Santa Monica, California (Smart); Drug Policy Research Center, RAND Corporation, Santa Monica, California (Smart); Department of Social & Behavioral Sciences, Indiana University Richard M. Fairbanks School of Public Health, Indianapolis (Grant); Program for Addiction Research, Clinical Care, Knowledge and Advocacy, Division of Epidemiology, Department of Internal Medicine, University of Utah School of Medicine, Salt Lake City (Gordon); Informatics, Decision-Enhancement, and Analytic Sciences Center, VA Salt Lake City Health Care System, Salt Lake City, Utah

(Gordon); Sol Price School of Public Policy and Leonard D. Schaeffer Center for Health Policy & Economics, University of Southern California, Los Angeles (Pacula); Behavioral and Policy Sciences Department, RAND Corporation, Pittsburgh, Pennsylvania (Stein).

Author Contributions: Drs Smart and Grant had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: Smart, Grant.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: Smart, Grant.

Critical revision of the manuscript for important intellectual content: All authors.

Statistical analysis: Smart, Grant.

Obtained funding: Smart, Pacula, Stein.

Administrative, technical, or material support: Grant.

Supervision: Smart, Pacula.

Conflict of Interest Disclosures: Dr Smart reported grants from National Institute on Drug Abuse during the conduct of the study. Dr Grant reported grants from National Institute on Drug Abuse and membership on the ExpertLens team outside the submitted work, as well as a spouse employed by Eli Lilly. Dr Gordon reported personal fees from UpToDate, grants from the National Institutes of Health (NIH) and the VA, and board service for the American Society of Addiction Medicine, Association for Multidisciplinary Education and Research in Substance use and Addiction, and International Society of Addiction Journal Editors outside the submitted work. Dr Pacula reported grants from National Institute on Drug Abuse during the conduct of the study as well as personal fees from Centers for Disease Control and Prevention, committee service with the National Academies of Sciences, Engineering, and Medicine, and grants from the National Institute on Alcohol Abuse and Alcoholism, National Institute on Drug Abuse, and FORE Foundation outside the submitted work.

Funding/Support: This article was prepared with support from the National Institute on Drug Abuse (P50DA046351).

Role of the Funder/Sponsor: The National Institute on Drug Abuse had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

REFERENCES

1. US Centers for Disease Control and Prevention. Drug overdose deaths in the U.S. top 100,000 annually. Accessed July 15, 2022. https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm

2. Wen H, Hockenberry JM, Pollack HA. Association of buprenorphine-waivered physician supply with buprenorphine treatment use and prescription opioid use in Medicaid enrollees. *JAMA Netw Open*. 2018;1(5):e182943-e182943. doi:10.1001/jamanetworkopen.2018.2943

3. Dick AW, Pacula RL, Gordon AJ, et al. Growth in buprenorphine waivers for physicians increased potential access to opioid agonist treatment, 2002-11. *Health Aff (Millwood)*. 2015;34(6):1028-1034. doi:10.1377/hlthaff.2014.1205

4. Miele GM, Caton L, Freese TE, et al. Implementation of the hub and spoke model for opioid use disorders in California: Rationale, design and anticipated impact. *J Subst Abuse Treat*. 2020;108:20-25. doi:10.1016/j.jsat.2019.07.013

5. Brooklyn JR, Sigmon SC. Vermont hub-and-spoke model of care for opioid use disorder: development, implementation, and impact. *J Addict Med*. 2017;11(4):286-292. doi:10.1097/ADM.0000000000000310

6. Pessar SC, Boustead A, Ge Y, Smart R, Pacula RL. Assessment of state and federal health policies for opioid use disorder treatment during the COVID-19 pandemic and beyond. *JAMA Health Forum*. 2021;2(11):e213833. doi:10.1001/jamahealthforum.2021.3833

7. Substance Abuse and Mental Health Services Administration. Key substance use and mental health indicators in the United States: results from the 2019 National Survey on Drug Use and Health. Accessed July 25, 2022. https://www.samhsa.gov/data/sites/default/files/reports/rpt35325/NSDUHFFRPDFWHTMLFiles2020/2020NSDUHFFR1PDFW102121.pdf

8. Lagisetty PA, Ross R, Bohnert A, Clay M, Maust DT. Buprenorphine treatment divide by race/ethnicity and payment. *JAMA Psychiatry*. 2019;76(9):979-981. doi:10.1001/jamapsychiatry.2019.0876

9. Grogan CM, Andrews C, Abraham A, et al. Survey highlights differences in Medicaid coverage for substance use treatment and opioid use disorder medications. *Health Aff (Millwood)*. 2016;35(12):2289-2296. doi:10.1377/hlthaff.2016.0623

10. Mattick RP, Breen C, Kimber J, Davoli M. Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *Cochrane Database Syst Rev*. 2009;3.

11. Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database Syst Rev*. 2014;2.

12. Wakeman SE, Larochelle MR, Ameli O, et al. Comparative effectiveness of different treatment pathways for opioid use disorder. *JAMA Netw Open*. 2020;3(2):e1920622-e1920622. doi:10.1001/jamanetworkopen.2019.20622

13. Sordo L, Barrio G, Bravo MJ, et al. Mortality risk during and after opioid substitution treatment: systematic review and meta-analysis of cohort studies. *BMJ*. 2017;357:j1550. doi:10.1136/bmj.j1550

14. Malta M, Varatharajan T, Russell C, Pang M, Bonato S, Fischer B. Opioid-related treatment, interventions, and outcomes among incarcerated persons: a systematic review. *PLoS Med*. 2019;16(12):e1003002. doi:10.1371/journal.pmed.1003002

15. Andraka-Christou B, Gordon AJ, Bouskill K, et al. Toward a typology of office-based buprenorphine treatment laws: themes from a review of state laws. *J Addict Med*. 2022;16(2):192-207.

16. Smart R, Kase CA, Taylor EA, Lumsden S, Smith SR, Stein BD. Strengths and weaknesses of existing data sources to support research to address the opioids crisis. *Prev Med Rep*. 2019;17:101015. doi:10.1016/j.pmedr.2019.101015

17. Crable EL, Benintendi A, Jones DK, Walley AY, Hicks JM, Drainoni M-L. Translating Medicaid policy into practice: policy implementation strategies from three US states' experiences enhancing substance use disorder treatment. *Implement Sci*. 2022;17(1):3. doi:10.1186/s13012-021-01182-4

18. Knudsen HK, Abraham AJ. Perceptions of the state policy environment and adoption of medications in the treatment of substance use disorders. *Psychiatr Serv*. 2012;63(1):19-25. doi:10.1176/appi.ps.201100034

19. Saloner B, Stoller KB, Alexander GC. Moving addiction care to the mainstream—improving the quality of buprenorphine treatment. *N Engl J Med*. 2018;379(1):4-6. doi:10.1056/NEJMp1804059

20. Mauri AI, Townsend TN, Haffajee RL. The association of state opioid misuse prevention policies with patient-and provider-related outcomes: a scoping review. *Milbank Q*. 2020;98(1):57-105. doi:10.1111/1468-0009.12436

21. Maclean JC, Mallatt J, Ruhm CJ, Simon K. *Economic Studies on the Opioid Crisis: A Review*. National Bureau of Economic Research; 2021.

22. Haegerich TM, Jones CM, Cote P-O, Robinson A, Ross L. Evidence for state, community and systems-level prevention strategies to address the opioid crisis. *Drug Alcohol Depend*. 2019;204:107563. doi:10.1016/j.drugalcdep.2019.107563

23. Pacula RL, Stein BD. State approaches to tackling the opioid crisis though the health care system. Accessed July 25, 2022. https://www.brookings.edu/multi-chapter-report/the-opioid-crisis-in-america-domestic-and-international-dimensions/

24. Alonso-Coello P, Schünemann HJ, Moberg J, et al; GRADE Working Group. GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices: 1: introduction. *BMJ*. 2016;353:i2016. doi:10.1136/bmj.i2016

25. Naimi TS, Blanchette J, Nelson TF, et al. A new scale of the U.S. alcohol policy environment and its relationship to binge drinking. *Am J Prev Med*. 2014;46(1):10-16. doi:10.1016/j.amepre.2013.07.015

26. Smart R, Grant S. Effectiveness and implementability of state-level naloxone access policies: expert consensus from an online modified-Delphi process. *Int J Drug Policy*. 2021;98:103383. doi:10.1016/j.drugpo.2021.103383

27. Merlin JS, Khodyakov D, Arnold R, et al. Expert panel consensus on management of advanced cancer–related pain in individuals with opioid use disorder. *JAMA Netw Open*. 2021;4(12):e2139968-e2139968. doi:10.1001/jamanetworkopen.2021.39968

28. Murphy MK, Black NA, Lamping DL, et al. Consensus development methods, and their use in clinical guideline development. *Health Technol Assess*. 1998;2(3):i-iv, 1-88. doi:10.3310/hta2030

29. Moberg J, Oxman AD, Rosenbaum S, et al; GRADE Working Group. The GRADE Evidence to Decision (EtD) framework for health system and public health decisions. *Health Res Policy Syst*. 2018;16(1):45. doi:10.1186/s12961-018-0320-2

30. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med*. 2014;89(9):1245-1251. doi:10.1097/ACM.0000000000000388

31. Khodyakov D, Hempel S, Rubenstein L, et al. Conducting online expert panels: a feasibility and experimental replicability study. *BMC Med Res Methodol*. 2011;11(1):174. doi:10.1186/1471-2288-11-174

32. Dalal S, Khodyakov D, Srinivasan R, Straus S, Adams J. ExpertLens: a system for eliciting opinions from a large pool of non-collocated experts with diverse knowledge. *Technol Forecast Soc*. 2011;78(8):1426-1444. doi:10.1016/j.techfore.2011.03.021

33. Pottie K, Magwood O, Rahman P, et al. GRADE concept paper 1: validating the "F.A.C.E" instrument using stakeholder perceptions of feasibility, acceptability, cost, and equity in guideline implement. *J Clin Epidemiol*. 2021;131:133-140. doi:10.1016/j.jclinepi.2020.11.018

34. Radomski TR, Decker A, Khodyakov D, et al. Development of a metric to detect and decrease low-value prescribing in older adults. *JAMA Netw Open*. 2022;5(2):e2148599-e2148599. doi:10.1001/jamanetworkopen.2021.48599

35. Fitch K, Bernstein SJ, Aguilar MD, et al. *The RAND/UCLA Appropriateness Method User's Manual*. RAND Corporation; 2001.

36. Williams AR, Nunes EV, Bisaga A, et al. Developing an opioid use disorder treatment cascade: a review of quality measures. *J Subst Abuse Treat*. 2018;91:57-68. doi:10.1016/j.jsat.2018.06.001

37. Khatri UG, Winkelman TNA. Strengthening the Medicaid Reentry Act—supporting the health of people who are incarcerated. *N Engl J Med*. 2022;386(16):1488-1490. doi:10.1056/NEJMp2119571

38. Bandara SN, Huskamp HA, Riedel LE, et al. Leveraging the Affordable Care Act to enroll justice-involved populations in Medicaid: state and local efforts. *Health Aff (Millwood)*. 2015;34(12):2044-2051. doi:10.1377/hlthaff.2015.0668

39. McKee C, Somers S, Artiga S, Gates A. *State Medicaid Eligibility Policies for Individuals Moving into and out of Incarceration*. Kaiser Family Foundation; 2015.

40. Prescription Drug Abuse Policy System. Requirements for licensure and operations of medications for opioid use disorder treatment. Accessed March 18, 2022. https://pdaps.org/datasets/medication-assisted-treatment-licensure-and-operations-1580241579

41. Korthuis PT, McCarty D, Weimer M, et al. Primary care–based models for the treatment of opioid use disorder: a scoping review. *Ann Intern Med*. 2017;166(4):268-278. doi:10.7326/M16-2149

42. Green B, Rhubart DC, Filteau MR. Barriers for implementing the hub and spoke model to expand medication for opioid use disorder: a case study of Montana. *Subst Abuse*. 2021;15:11782218211039781. doi:10.1177/11782218211039781

43. Snell-Rood C, Willging C, Showalter D, Peters H, Pollini RA. System-level factors shaping the implementation of "hub and spoke" systems to expand MOUD in rural areas. *Subst Abuse*. 2021;42(4):716-725.

44. Kilaru AS, Lubitz SF, Davis J, et al. A state financial incentive policy to improve emergency department treatment for opioid use disorder: a qualitative study. *Psychiatr Serv*. 2021;72(9):1048-1056. doi:10.1176/appi.ps.202000501

45. Substance Abuse and Mental Health Services Administration. *Use of Medication-Assisted Treatment in Emergency Departments*. National Mental Health and Substance Use Policy Laboratory, Substance Abuse and Mental Health Services Administration; 2021.

46. Alpert A, Powell D, Pacula RL. Supply-side drug policy in the presence of substitutes: evidence from the introduction of abuse-deterrent opioids. *Am Econ J Econ Policy*. 2018;10(4):1-35. doi:10.1257/pol.20170082

47. Foglia MB. When people you love are the unintended consequences of opioid policy. *Health Aff (Millwood)*. 2019;38(12):2105-2108. doi:10.1377/hlthaff.2019.00697

48. Kim B. Must-access prescription drug monitoring programs and the opioid overdose epidemic: the unintended consequences. *J Health Econ*. 2021;75:102408. doi:10.1016/j.jhealeco.2020.102408

49. Jarvis M, Williams J, Hurford M, et al. Appropriate use of drug testing in clinical addiction medicine. *J Addict Med*. 2017;11(3):163-173. doi:10.1097/ADM.0000000000000323

50. Carroll KM, Weiss RD. The role of behavioral interventions in buprenorphine maintenance treatment: a review. *Am J Psychiatry*. 2017;174(8):738-747. doi:10.1176/appi.ajp.2016.16070792

51. Fitzgerald Jones K, Khodyakov D, Arnold R, et al. Consensus-based guidance on opioid management in individuals with advanced cancer-related pain and opioid misuse or use disorder. *JAMA Oncol*. 2022. doi:10.1001/jamaoncol.2022.2191

52. Jilani SM, Jones HE, Grossman M, et al. Standardizing the clinical definition of opioid withdrawal in the neonate. *J Pediatr*. 2022;243:33-39.e1. doi:10.1016/j.jpeds.2021.12.021

SUPPLEMENT.

eMethods.

eFigure 1. Round 2 Feedback and Discussion, Example from the Implementation Panel

eTable 1. Sensitivity Analysis for Round 3 of the Online Modified-Delphi Process, Effectiveness Panel

eTable 2. Sensitivity Analysis for Round 3 of the Online Modified-Delphi Process, Implementation Panel

eTable 3. Within-Participant Correlations between Outcome Ratings, Round 3

eTable 4. Within-Participant Correlations between Round 1 and Round 3 Ratings, by Outcome

eTable 5. Changes in Participant Ratings between Round 1 and Round 3

eFigure 2. Results for Round 1 and Round 3 of the Online Modified-Delphi Process, Effectiveness Panel

eFigure 3. Results for Round 1 and Round 3 of the Online Modified-Delphi Process, Implementation Panel