

Appendix 3

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Methodological notes

Table S1: Methodological details for the document analysis of published reports and meeting minutes.

	Switzerland	Germany	UK
No of reports analyzed	143	12	105
Kinds of reports considered	Policy briefs and reports published by the Swiss National COVID-19 Science Task Force. Six reports were excluded because they were directed to clinical decision-makers or the general public	Reports published by the German Federal Expert Council during the COVID-19 pandemic	SAGE meeting minutes concerning the COVID-19 pandemic
Analytical level	Whole report	Whole report	Whole reports Topics within reports
Variables collected	- Recommendations for policies? (yes/no) - If recommendations: Several policy alternatives discussed and/or conditional recommendations? (yes/no) - If recommendation: Preference for one policy alternative expressed? (yes/no)	- Recommendations for policies? (yes/no) - If recommendations: Several policy alternatives discussed and/or conditional recommendations? (yes/no) - If recommendation: Preference for one policy alternative expressed? (yes/no)	- Topics - Policy question addressed in each topic - Stances expressed in each topic: 1. descriptive (no recommendations) 2. normative (yes-or-no answer) 3. neutral (several alternatives discussed, how-to answer) 4. mixed (several issues discussed with mixed stances) 5. Unclear - Recommendations for policies? (yes/no) - If recommendations: Several policy alternatives discussed and/or conditional recommendations? (yes/no) - If recommendation: Preference for one policy alternative expressed? (yes/no)
Other features collected	- Report commissioned by policymakers? (yes/no)	- Report type: 1. Current situation report 2. Preparation for the future 3. Topic-specific agenda - Addressing clinical setting? (yes/no)	

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Intra-coder reliability

Table S2: Intra-coder reliability scores

	Cohen's κ				No of articles tested
	Recommendations for policies?	Several concrete policy alternatives discussed?	One policy alternative advocated?	Topic-specific stances	
Switzerland	1.00	0.79	0.66	-	26 (17.4%)
Germany	1.00	1.00	1.00	-	3 (25.0%)
UK	0.89	0.87	0.74	0.96	22 (21.0%)
Total	0.92	0.84	0.72	-	51 (19.2%)

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Supplementary findings Swiss National COVID-19 Science Task Force reports

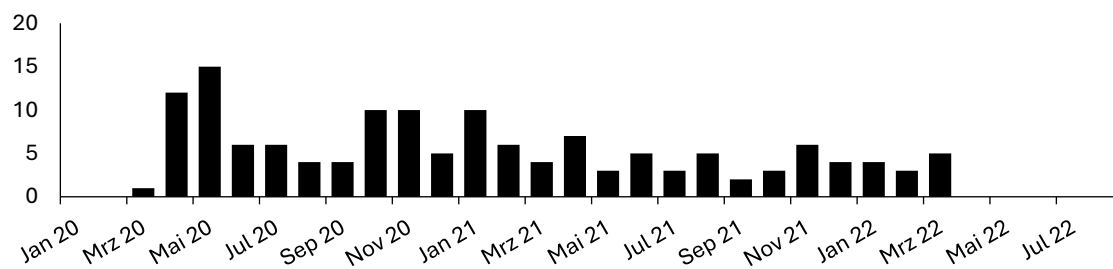


Figure S1: Number of reports published by the Swiss National COVID-19 Science Task Force per month.

Table S3: Presence of recommendations for policies over time in the reports of the Swiss National COVID-19 Science Task Force.

	Recommendations for policies				If recommendation: Several concrete policy alternatives discussed and/or conditional recommendations		If recommendation: One policy alternative advocated		Total briefs per month
	yes		no		yes		yes		
03/2020	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1
04/2020	8	66.7%	4	33.3%	4	33.3%	4	33.3%	12
05/2020	11	73.3%	4	26.7%	7	46.7%	6	40.0%	15
06/2020	4	66.7%	2	33.3%	4	66.7%	2	33.3%	6
07/2020	6	100.0%	0	0.0%	3	50.0%	4	66.7%	6
08/2020	3	75.0%	1	25.0%	1	25.0%	3	75.0%	4
09/2020	4	100.0%	0	0.0%	3	75.0%	3	75.0%	4
10/2020	6	60.0%	4	40.0%	4	40.0%	4	40.0%	10
11/2020	8	80.0%	2	20.0%	7	70.0%	4	40.0%	10
12/2020	4	80.0%	1	20.0%	1	20.0%	1	20.0%	5
01/2021	6	60.0%	4	40.0%	3	30.0%	4	40.0%	10
02/2021	3	50.0%	3	50.0%	3	50.0%	0	0.0%	6
03/2021	3	75.0%	1	25.0%	0	0.0%	1	25.0%	4
04/2021	5	71.4%	2	28.6%	1	14.3%	2	28.6%	7
05/2021	0	0.0%	3	100.0%	0	0.0%	0	0.0%	3
06/2021	2	40.0%	3	60.0%	2	40.0%	0	0.0%	5
07/2021	1	33.3%	2	66.7%	1	33.3%	1	33.3%	3
08/2021	1	20.0%	4	80.0%	1	20.0%	0	0.0%	5
09/2021	0	0.0%	2	100.0%	0	0.0%	0	0.0%	2
10/2021	0	0.0%	3	100.0%	0	0.0%	0	0.0%	3
11/2021	3	50.0%	3	50.0%	2	33.3%	1	16.7%	6
12/2021	4	100.0%	0	0.0%	2	50.0%	2	50.0%	4
01/2022	2	50.0%	2	50.0%	1	25.0%	1	25.0%	4
02/2022	0	0.0%	3	100.0%	0	0.0%	0	0.0%	3
03/2022	1	20.0%	4	80.0%	0	0.0%	0	0.0%	5
Total	85	59.4%	58	40.6%	50	35.0%	43	30.1%	143

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Supplementary findings German Federal Expert Council reports

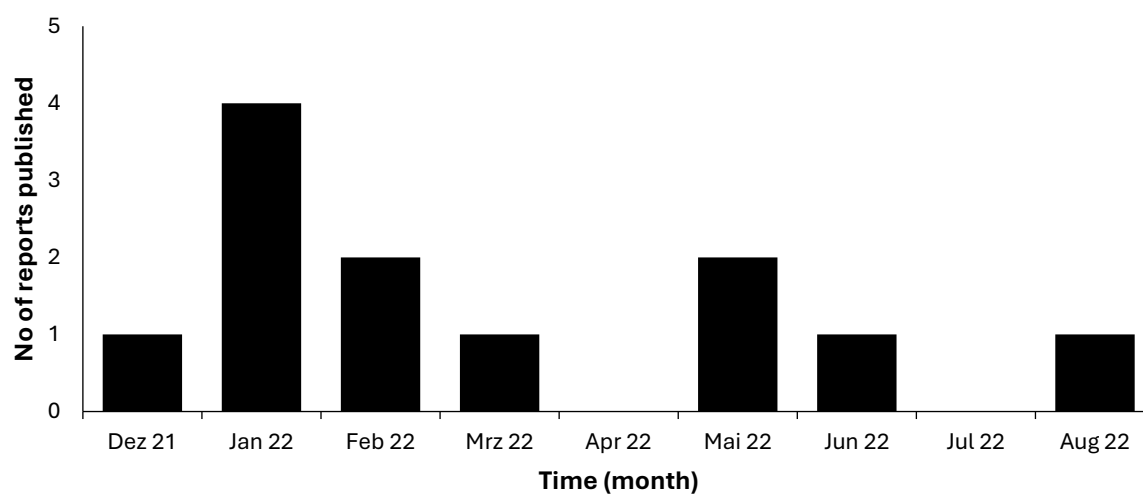


Figure S2: Number of reports published by the German Federal Expert Council per month.

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Supplementary findings UK SAGE meeting minutes

SAGE published 105 meeting minutes related to the COVID-19 pandemic for meetings between January 2020 and March 2022. Each meeting covered between one and eight different topics distinguished in the meeting minutes.

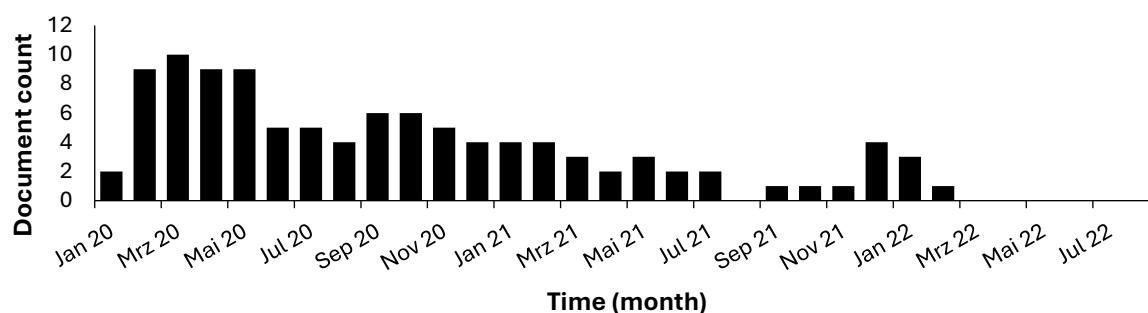


Figure S3: Count of SAGE meeting minutes per month.

These topics were categorized by grouping them thematically into 63 topics and abstracting them further into 14 broad topics.

Table S4: Summary and abstraction of topics mentioned in SAGE meeting minutes.

Topic (as stated in SAGE meeting minutes)	Topic (cat)	Topic (broad)
Behavioral and social interventions	Behavioral and social interventions - general	Behavioral and social interventions
Implementing long-term baseline NPIs and achieving long-term behaviour change		
Measures to limit spread		
Measures to limit spread in the UK		
NPI modelling		
NPIs		
NPIs as plan B in winter		
Response measures in the context of Omicron		
Review of interventions to contain, delay or mitigate spread of Covid-19		
Celebrations and Observances during COVID-19	Celebrations	
Household mixing over the festive season		
Opening large events and venues	Gatherings	
Bubbling		
Gathering sizes		
Social bubbling		
Effectiveness and harms of different non-pharmaceutical interventions	Impact of interventions	
Four Nation's Autumn interventions		
Impact of interventions across the UK		
Impact of potential interventions		
Impact of tiers		

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Options for changing non-pharmaceutical interventions			
Further modelling of easing restrictions	Lifting interventions		
Lifting interventions			
Releasing measures			
Social and behavioural impacts of lifting restrictions			
Local interventions			
Local measures to control outbreaks	Local interventions		
Regional measures			
Segmentation	Segmentation		
Segmentation of vulnerable people			
Singing, instruments, arts	Singing, instruments, arts		
Sequencing of social distancing NPIs			
Positive strategies for sustaining adherence to infection control behaviours	Compliance		
Public order			
Public unrest			
Risk of public disorder			
Behavioral sciences			
Impacts of financial and other targeted support on rates of self-isolation or quarantine			
NHS app			
Certification of immunity	COVID-19 Health Certificate		
Adult social care in the context of post-vaccination risk landscape	Care homes	Clinical care	
Care homes			
Care homes - review and summary of evidence			
Clinical management	Clinical care		
Clinical update			
Science advice for NHS planning			
Long COVID	Long COVID		
Nosocomial infection	Nosocomial infection		
Nosocomial infections			
Therapeutics	Therapeutics		
Testing and treatment	Treatment		
Testing and treatments			
Communicating the science	Communication to the public	Communication to the public	
Community case definitions for Covid-19	Case definitions	Epidemiology	
Co-infection	Co-infection		
Potential impacts of co-infection			
Identifying outbreaks, including lessons from Leicester	Epidemiology		
R and growth rates			
Direct and indirect impacts of COVID-19 on excess deaths and morbidity	Excess deaths		
Direct and Indirect Impacts of COVID-19 on Excess Deaths and Morbidity – addition of counterfactual scenario			
Excess death planning			
Excess deaths			
Global outlook			
International	Global epidemiology		

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International issues			
Modelling the outbreak in China and internationally			
Direct and indirect health impacts of COVID	Health impact		
Changes in hospital admissions between first and second wave	Hospital admissions		
Comparing waves 1 and 2 for child hospitalisations			
Antibody testing and immunity	Immunity		
Immunity and reinfection			
Immunity, reinfection and certification			
Immunology			
Measuring population immunity to Covid-19			
Testing and immunity			
Update on waning immunity			
Waning of vaccine-derived immunity			
Updated modelling in light of changes to social mixing (schools, etc.)	Scenarios		
COVID-19 scenarios			
Exit scenarios and easing of restrictions			
Medium-term scenarios and review of step 4 modelling			
Modelling for the UK			
Most likely scenarios			
Planning scenarios			
Potential trajetories of COVID-19			
Reasonable worst case scenario			
Reasonable Worst Case Scenarios			
Reasonable worst-case scenarios			
Roadmap modelling			
Vaccine and medium-term NPI scenarios			
Data flows		Surveillance	
Data from UK cases			
Genomics update			
Reproduction number, incidence and prevalence			
Issues to monitor over the coming months			
National case surveillance			
Population case detection			
Surveillance			
Common characteristics between areas of persistent transmission	Transmission		
Asymptomatic and pauci-symptomatic cases	Asymptomatic infections		
Asymptomatic cases and infection			
winter modelling and seasonality	Seasonality		
Community face mask use	Face masks	Personal protective equipment	
Face masks			
Face masks in healthcare settings			
Masks in healthcare settings			
Use of face coverings for extended periods			
Hand hygiene	Personal Protective Equipment		
Reuse of PPE			
Importation Analysis and Impact of Travel Restrictions	Traveling and borders		

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Testing and quarantine strategies for international arrivals		
Transport-related issues		
Travel and borders		
Travel restrictions		
UK borders		
Borders		
Opening Further and Higher Education settings in autumn		
Opening Higher Education and Further Education settings in Autumn		
Return to campus: impact of staggering and the wider community		
Further and higher education	Higher education	Setting-specific measures
Education (schools and universities)		
Impact of children and schools on transmission		
Impact of children and schools on transmission		
Impact of reopening schools		
Impact of school reopening	Schools	
Children and schools		
Role of children and school transmission		
School closures		
Schools		
Gender differences in clinical and social impacts of COVID	Gender aspects during COVID-19	
COVID-19 and close-knit communities		
Drivers of prevalence and potential biological factors in minority ethnic groups		
Ethnicity		
Ethnicity and clinical outcomes	Minorities	Social implications
Minority ethnic outcomes in wave 1 and 2		
Public health messaging to minority ethnic communities		
Targeted messaging for BAME and hard-to-reach groups		
JBC alert levels (triggers)		
Joint Biosecurity Centre (JBC) trigger points	Trigger points	
Triggers for change in HMG approach		
Triggers for escalating HMG response		
Community viral testing		
Duration of isolation / test and release		
Duration of isolation and impact of testing for contacts of known index cases		
Exit strategy and related testing strategy		
Isolation of contacts linked to testing		
Mass screening		
Mass testing	TTIQ strategy	Strategy
Maximum tolerable time to notification and isolation of contacts		
Optimal number of contacts and tracing time		
Quarantine release		
Swabbing and testing		
Test, trace and isolate		
Testing		

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Testing and contact tracing		
Testing and data		
Testing of contacts		
Testing strategies		
Testing strategy		
Testing strategy and lifting measures		
Testing strategy and monitoring		
Testing, data and information sharing		
UK testing		
Update on wastewater testing		
Wastewater monitoring		
UK health readiness and planning		
Winter	Containment strategy	
Infection and transmission in children		
Role of children in transmission	Children transmission	
Role of children in transmission of SARS-CoV-2		
Transmission among children		
Environmental transmission		
Environmental transmission and mitigations		
Persistence in the environment		
Risk assessment approach for environmental mitigation measures	Environmental transmission	
Aerosol transmission		
Air cleaning and personal decontamination devices		
CO2 monitoring and ventilation		
Ventilation		
Household transmission		
Housing impacts and household transmissions	Household transmission	
Update on ethnicity and household transmission		
High-connectivity occupations and reducing transmission in social networks	Occupational transmission	
Occupation, transmission, risk and outcomes		
Outdoor and wider transmission	Outdoor transmission	
Relative risk of transmission factors and in different settings		
Routes of transmission	Routes of transmission	
Transmission characteristics		
High-risk institutional settings	Social consequences	
Super spreader	Super spreader	
Transmission in settings consensus		
Principles for reducing transmissions	Transmission	
Transmission in leisure, hospitality and retail	Transmission in leisure	
Infection transmission in protests	Transmission in protests	
Transmission in younger people	Transmission in younger people	
Prisons		
Transmissions in prison	Transmissions in prison	
Vaccines		
Vaccines and therapeutics	Vaccination	Vaccination

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Impact of international vaccination	Vaccination impact	
Impact of vaccines on hospital admissions		
Potential impacts of vaccines		
Vaccine efficacy	Vaccine efficacy	
Updating Vaccines in Response to Viral Evolution	Vaccine updates	
Vaccine updates		
Infectiousness	Viral characteristics	
Understanding COVID-19		
Viral phenotypes and human genomics	Viral phenotypes and human genomics	
Animal reservoirs	Viral variants	Viral characteristics
B1.1.7 biology update		
Long-term viral evolution		
Mink SARS-CoV-2 mutations		
New variants		
Update on long-term viral evolution		
Update on variants		
AOB	miscellaneous	miscellaneous
For future discussion at SAGE		
Outstanding actions		
Previous actions		
Priorities for SAGE ahead		
Publication of SAGE papers and other materials		
SAGE forward look		
SAGE priorities		
Summary and review of NERVTAG conclusions	Research	Research
Health data research		
Human challenge studies		
Publication of regional data		
Use of household survey to measure infectiousness	Situation update	Situation update
Introduction		
Situation update		

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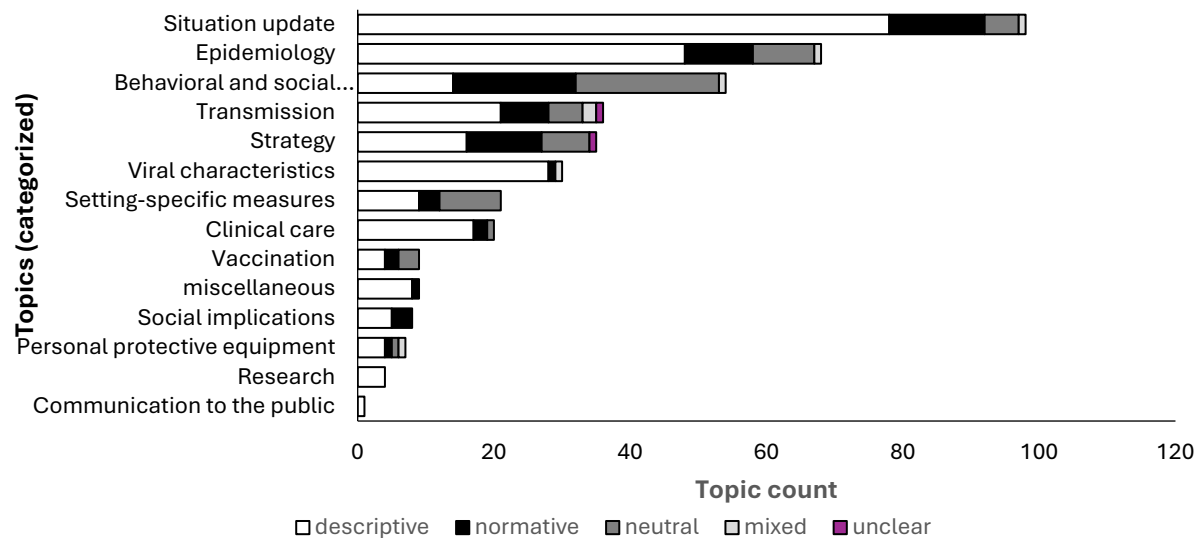


Figure S4: Topic-specific stances expressed in SAGE meeting minutes.

Table S5: Topic specific stances expressed over time.

	descriptive		normative		neutral		mixed		unclear		Total topics	
	N	%	N	%	N	%	N	%	N	%	N	%
01/2020	9	81.8%	1	9.1%	1	9.1%	0	0.0%	0	0.0%	11	100.0%
02/2020	35	87.5%	3	7.5%	2	5.0%	0	0.0%	0	0.0%	40	100.0%
03/2020	34	75.6%	9	20.0%	2	4.4%	0	0.0%	0	0.0%	45	100.0%
04/2020	46	86.8%	3	5.7%	1	1.9%	3	5.7%	0	0.0%	53	100.0%
05/2020	18	51.4%	8	22.9%	7	20.0%	0	0.0%	2	5.7%	35	100.0%
06/2020	12	70.6%	1	5.9%	3	17.6%	1	5.9%	0	0.0%	17	100.0%
07/2020	11	50.0%	7	31.8%	4	18.2%	0	0.0%	0	0.0%	22	100.0%
08/2020	3	27.3%	4	36.4%	4	36.4%	0	0.0%	0	0.0%	11	100.0%
09/2020	2	11.1%	9	50.0%	7	38.9%	0	0.0%	0	0.0%	18	100.0%
10/2020	13	68.4%	4	21.1%	1	5.3%	1	5.3%	0	0.0%	19	100.0%
11/2020	13	61.9%	4	19.0%	4	19.0%	0	0.0%	0	0.0%	21	100.0%
12/2020	6	50.0%	1	8.3%	5	41.7%	0	0.0%	0	0.0%	12	100.0%
01/2021	9	64.3%	0	0.0%	5	35.7%	0	0.0%	0	0.0%	14	100.0%
02/2021	6	42.9%	6	42.9%	2	14.3%	0	0.0%	0	0.0%	14	100.0%
03/2021	6	50.0%	2	16.7%	4	33.3%	0	0.0%	0	0.0%	12	100.0%
04/2021	7	70.0%	0	0.0%	3	30.0%	0	0.0%	0	0.0%	10	100.0%
05/2021	5	62.5%	1	12.5%	1	12.5%	1	12.5%	0	0.0%	8	100.0%
06/2021	1	33.3%	2	66.7%	0	0.0%	0	0.0%	0	0.0%	3	100.0%
07/2021	7	70.0%	1	10.0%	2	20.0%	0	0.0%	0	0.0%	10	100.0%
08/2021	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
09/2021	6	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6	100.0%
10/2021	1	25.0%	2	50.0%	1	25.0%	0	0.0%	0	0.0%	4	100.0%
11/2021	1	50.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	2	100.0%
12/2021	1	16.7%	3	50.0%	1	16.7%	1	16.7%	0	0.0%	6	100.0%
01/2022	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	100.0%
02/2022	2	50.0%	2	50.0%	0	0.0%	0	0.0%	0	0.0%	4	100.0%

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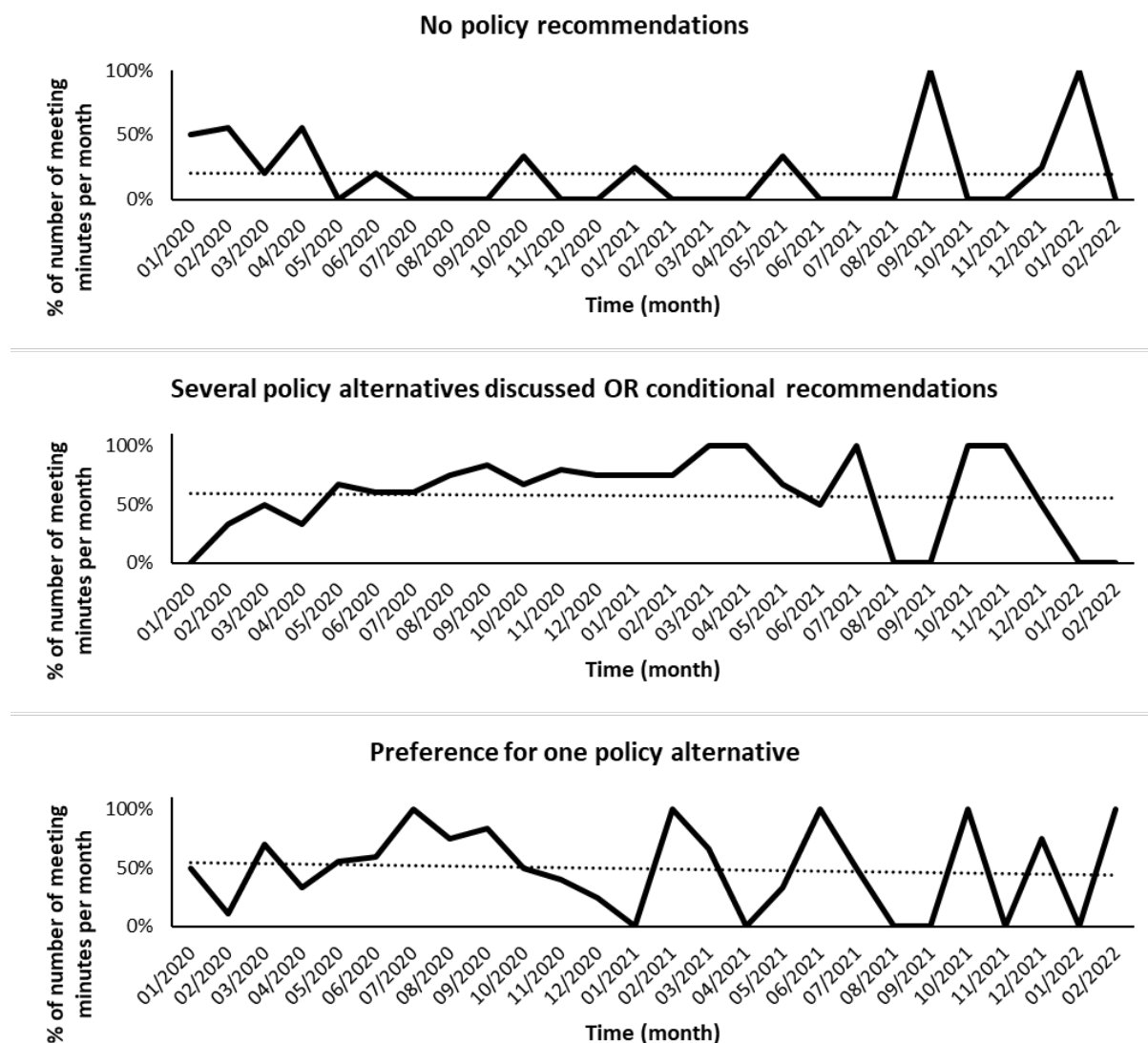


Figure S5: Development of how the SAGE meeting minutes presented scientific advice over time. Dotted lines are linear trend lines. This figure shows the results from the analysis on the document-level (Figure 3 in the manuscript shows more detailed results when considering the various topics discussed in each meeting).