European COVID-19 Modelling Hubs: Key results of feedback survey, 2021-2022

ECDC Mathematical Modelling Team

European COVID-19 Modelling Hub meeting, 26.01.2023

With thanks to everyone who took the time to fill in the survey!

Also, we thank Prof Sebastian Funk and Dr Katharine Sherratt (LSHTM academic leads, ECDC contractors) for discussions on the survey!

Background

Since early 2021, the European COVID-19 Modelling Hubs have been a platform

- to **combine and interpret the technical work of many modelling teams,**
- to gain **insights into short-term and longer-term trends and drivers** of modelling the COVID-19 epidemiology,
- to **inform ECDC and COVID-19-related policy advice**, and
- to **bring together the international community of modellers** working on COVID-19 transmission in Europe.

➢ **Q: How can we continue improving the future work of the European (COVID-19) Modelling Hub?**

Methods

- Online survey with 22 questions split in 3 parts:
  1) European COVID-19 **Forecast Hub**
  2) European COVID-19 **Scenario Hub**
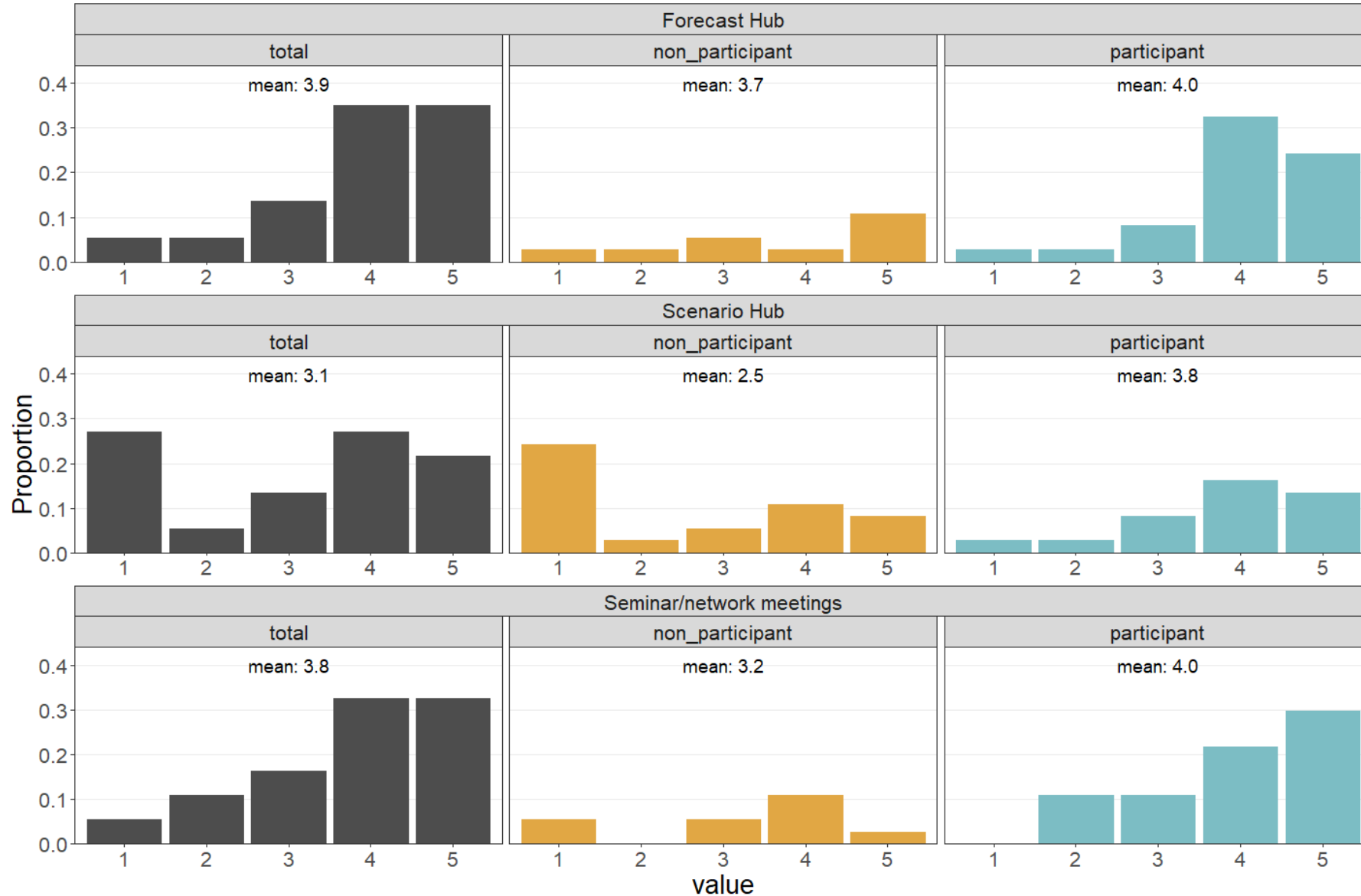 3) Bi-weekly seminar/network **meetings**

- Invited people who opted-in to be contacted about the hubs (via email lists)

- Survey open for 2 weeks, from 2022-11-29 until 2022-12-13 (2 reminders at different days and times at the start of the subsequent weeks)

- Responses (n=37) were recorded anonymously

➢ We aimed to comprehensively capture modellers' experiences, though we invited all stakeholders on the email lists (possibly without own model)

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Results: Overall usefulness to own work

Overall, how useful to your work did you find the European COVID-19 Forecast Hub/Scenario Hub/Meetings?
1 = not useful, 5 = very useful

High usefulness of FH, especially by participants

High usefulness of SH, especially by participants

High usefulness of meetings, especially by participants (modellers)

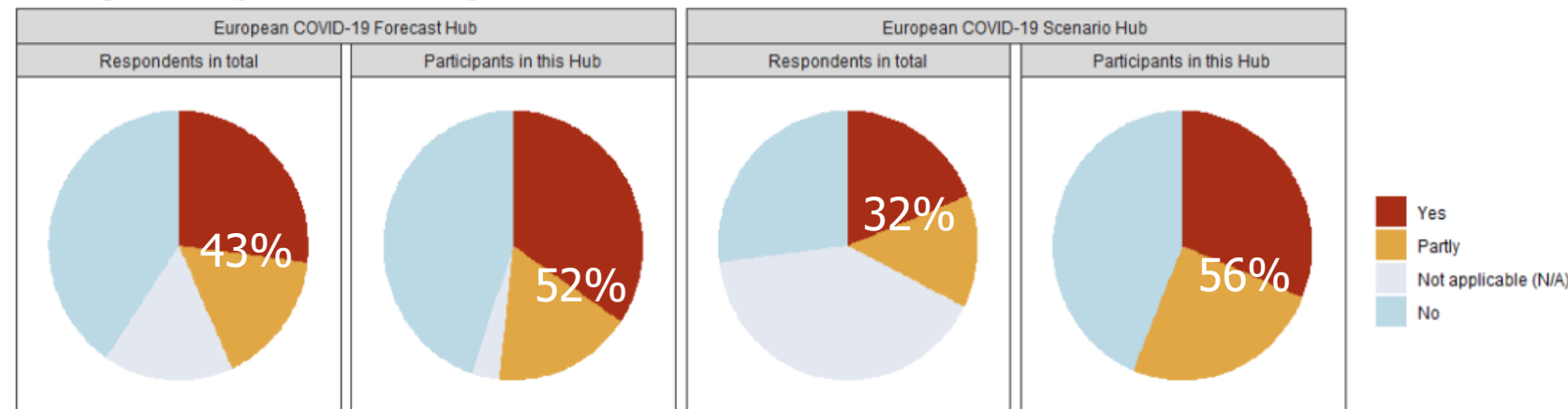# Results: Referral, publication status, extra work

- Most respondents heard about the European COVID-19 Hubs through colleagues (Forecast Hub: 84%, Scenario Hub: 62%)
  - Followed by official channels (FH: 14%; SH: 11%), and, for the Scenario Hub, also via the Forecast Hub (41%)

- Most models have been published, or are submitted/prepared for publication (FH: 94%, SH: 100%)

- Work specifically done for Hubs:
  - "Yes" or "Partly" (FH: 16, SH: 12)
  Thank you!

Would you describe your modelling work for the European COVID-19 Forecast Hub (European COVID-19 Scenario Hub) as falling outside of your usual work that you would not have done otherwise?

European COVID-19 Forecast Hub		European COVID-19 Scenario Hub	
Respondents in total	Participants in this Hub	Respondents in total	Participants in this Hub
43%	52%	32%	56%

Legend:
- Yes
- Partly
- Not applicable (N/A)
- No

What went well – Comments shared by both Hubs and the Meetings

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- **Community building and peer support**
  - Having the meetings with discussions; Working on similar issues (and the exact same scenarios - SH); Helpful discussions on how to implement assumptions

- **Exchange of ideas, knowledge transfer**
  - To be able to discuss new ways to model COVID-19 spread; Relevant, stimulating subjects of talks allowed getting new ideas; Broad topic meetings/presentations of papers worked well for more engaging discussions

- **Comparing models and model results**
  - Learning about other models; Verifying country-specific findings of own work; An evaluation focussed on model performances rather than models themselves

- **Harmonised framework and data**
  - Unified validation framework useful; Useful evaluation and archiving of forecasts by an independent institution; Information about data sources (and issues); Being forced to adapt models to future needs (SH)

- **Technical solution "outstanding"**
  - Submitting model results via GitHub; Useful interface and visualisations

- **FH: Clear output (paper) & deadline (weekly)**

- **Meetings: Well prepared and announced in advance**

What could be improved – Comments for both Hubs and the Meetings

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- **More incentives to contribute/improve model**
  - Paper, financial support, info about such opportunities

- **FH: Extending the outcomes (e.g. admissions)**
  - Poor quality of case data negatively impacts evaluation

- **Improve online visualisations**
  - Allow browsing entire history of forecasts; Allow selection of models based on performance or specific characteristics/model types; Interactive figures (SH)

- **Develop other applications/projects**
  - In related or different areas, or different disease(s); Another common project for the community (on data availability and homogenization?)

- **Automate the process & hosting code centrally**

- **SH: Clearer workplan (and output) with more advance timeline and scope in future rounds**
  - Little time between R2 & R3; Avoid scenarios 1+ years and focus on VOCs; Need for more harmonisation/ shared assumptions

- **Map outcomes from one country to another**
  - Little incentive for modellers to include other countries; Include more modellers from EU public health institutes

- **Unclear future of the hub and for what disease**

- **Meetings: More critical reflection of models**
  - Meetings on selected topics to allow thinking of joint projects; Discussions of opposing models/approaches
  - Time of meetings; Make meetings public

Summary

- European COVID-19 Modelling Hub has been a success in (1) combining the technical work from many modelling teams internationally, (2) gaining insights into short-term and long-term COVID-19 epidemiology, (3) informing ECDC and policy makers, and (4) bringing modellers together to form a community

- High usefulness for own work, especially in participants of respective Hubs
  - Potential selection bias vs. honest feedback by a reasonably large number (n=37)
  - Vast majority of participants of >80% (SH: >90%) likely to continue in the Hub in 2023

- How can we continue improving the future work of the Hub?
  - Continue with COVID-19 Hub and meetings in 2023, extend outcomes and explore other ideas → FH with possible changes soon; SH with 2 rounds envisioned (vs. capacity)
  - More incentives needed to contribute or improve on models → Work in progress (e.g. paper; some other plans not possible to share yet), but also community-driven?
  - Changed time of meeting → Poll on time; Participation in the Hub open to others

Thank you for your attention!

Questions or comments?