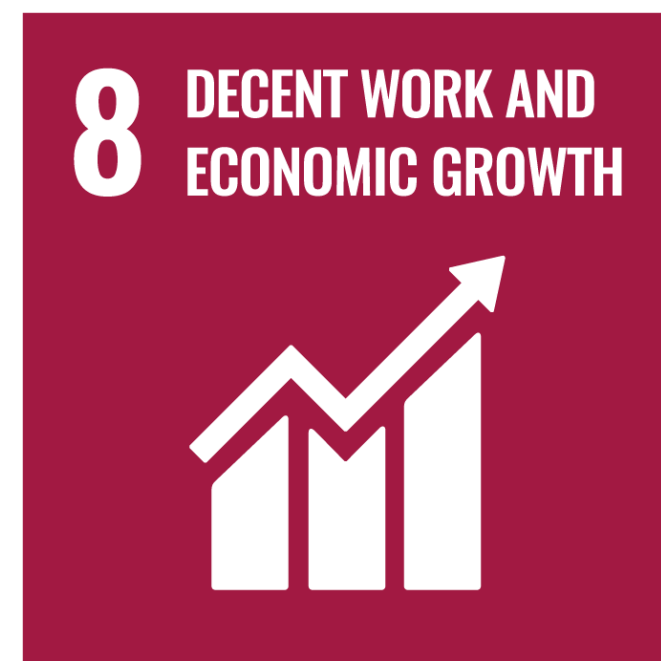


# **Unlocking the Potential of Global Human Expertise**

**Elliot Meyerson, Olivier Francon, Darren Sargent, Babak Hodjat  
and Risto Miikkulainen**



# SUSTAINABLE DEVELOPMENT GOALS







1. **Define**: Formalize decision-making problem

2. **Gather**: Solicit solutions from diverse experts

3. **Distill**: Convert solutions to a canonical form

4. **Evolve**: Recombine and refine

Realizing Human Expertise with AI (**RHEA**)



# PANDEMIC RESPONSE CHALLENGE

PHASE | Awarded



XPRIZE  
PANDEMIC RESPONSE  
CHALLENGE

Cognizant

OVERVIEW

ACTIVITY

SPONSORS &  
PARTNERS

GUIDELINES

RESOURCES

WINNERS &  
RESULTS

PANDEMIC  
RESPONSE  
CHALLENGE

# \$500K

Prize Purse





INTERNATIONAL  
**Herald Tribune**  
THE NEW YORK TIMES AND THE WASHINGTON POST

**HUMANS  
WANTED**



#PANDEMICRESPONSE

**HUMANS  
WANTED**



#PANDEMICRESPONSE



# Entrants & Winners

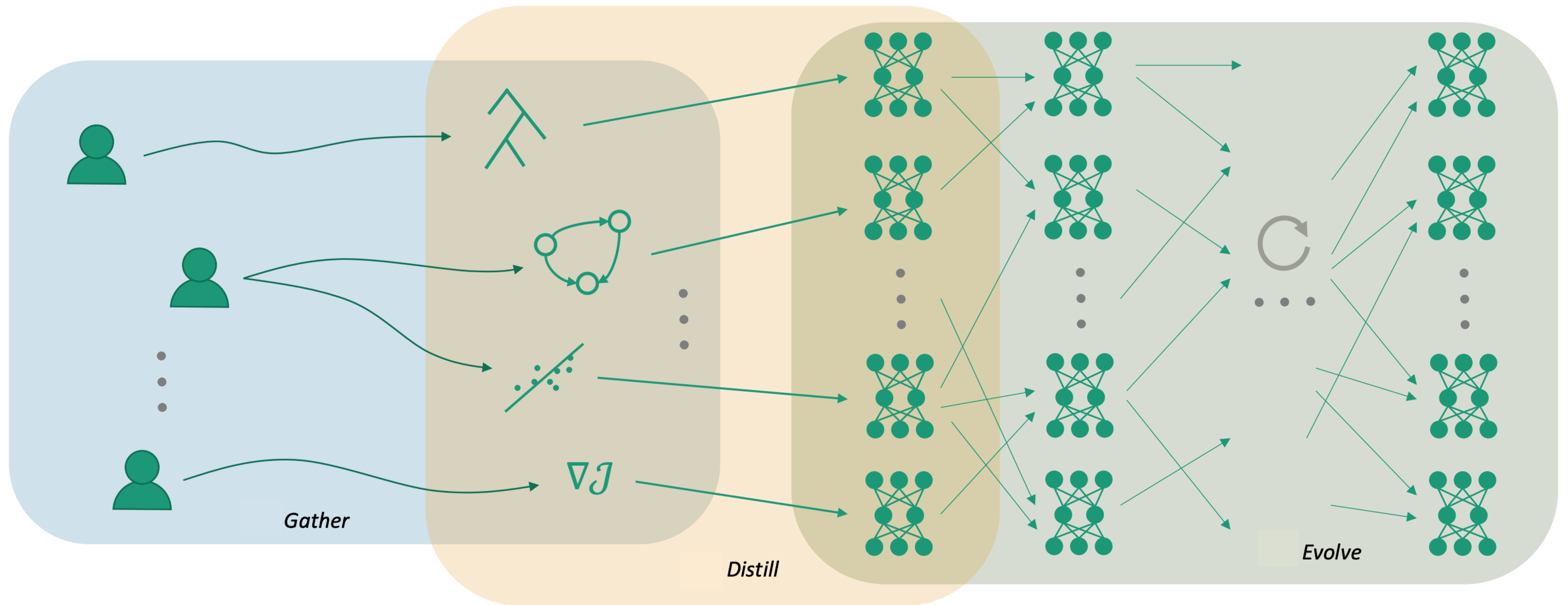
- >100 Teams participated, across 23 countries; 169 prescriptor models
- Top two teams each received **\$250K**
- Eight honorable mentions received \$3K AWS credits
- Multiple teams had their approaches published
- Multiple were consulting with local governments



**Point: Many people tried hard to win a challenge that many people cared a lot about**

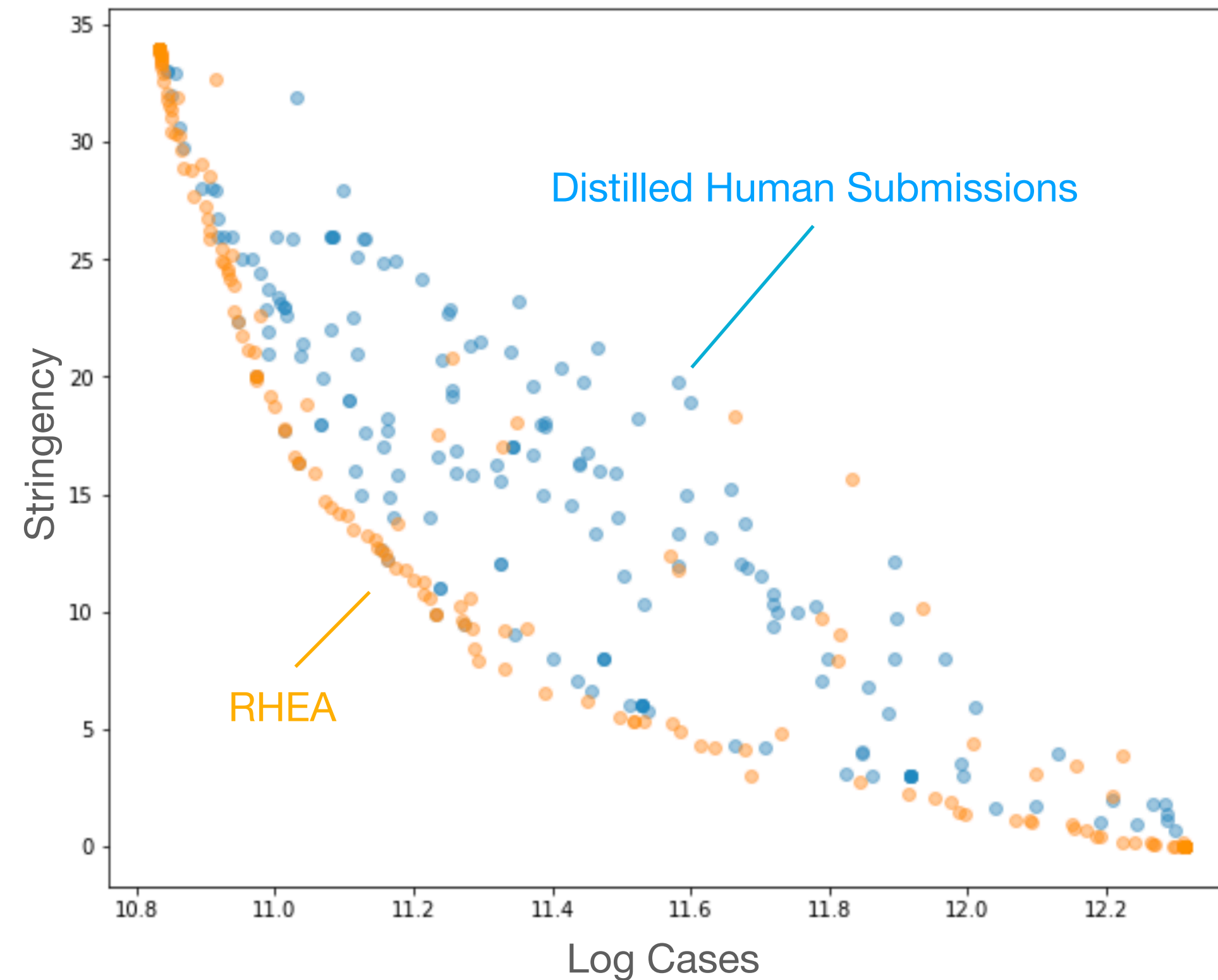


# Applying RHEA





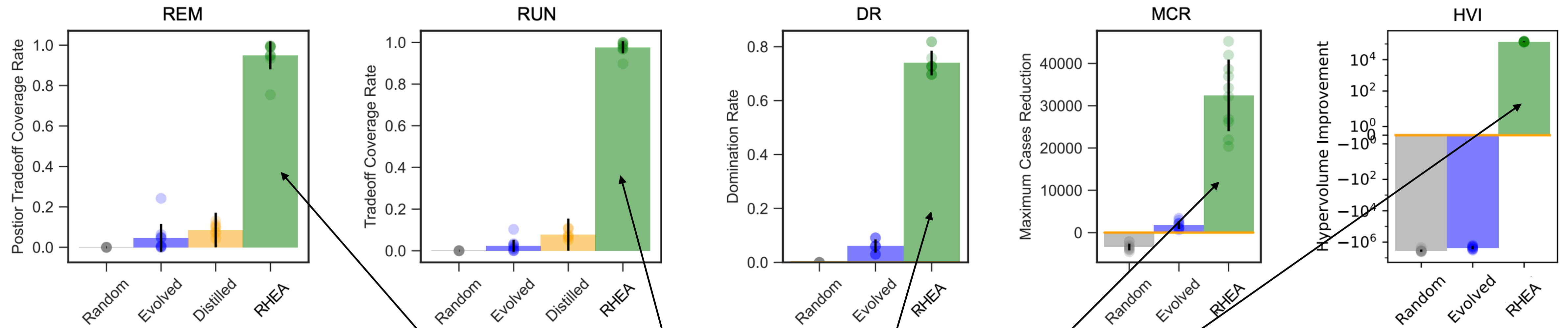
# Pushing beyond human solutions



- RHEA starts with distilled versions of submissions, and pushed beyond



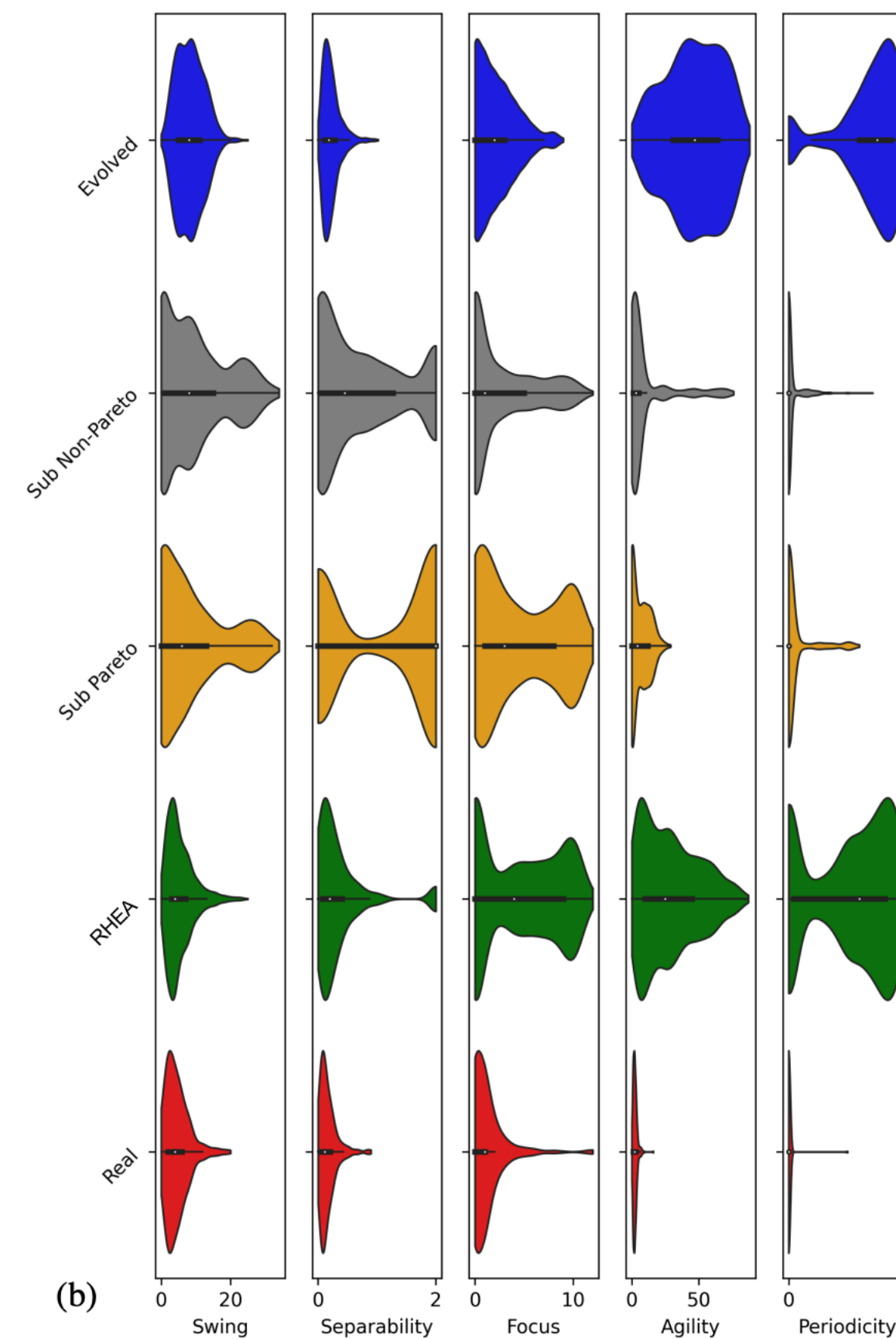
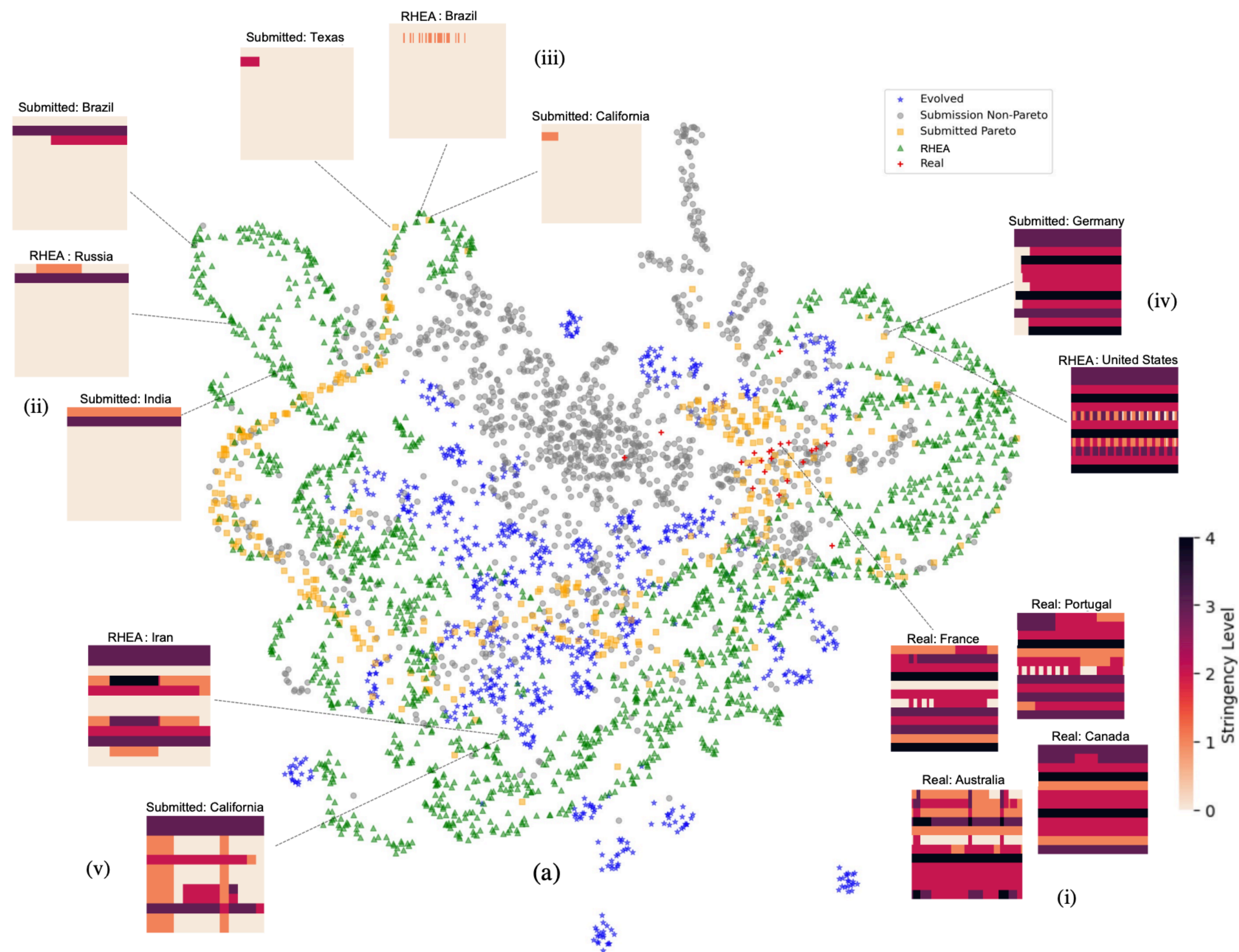
# Metrics



**RHEA dominates the union of all submissions**



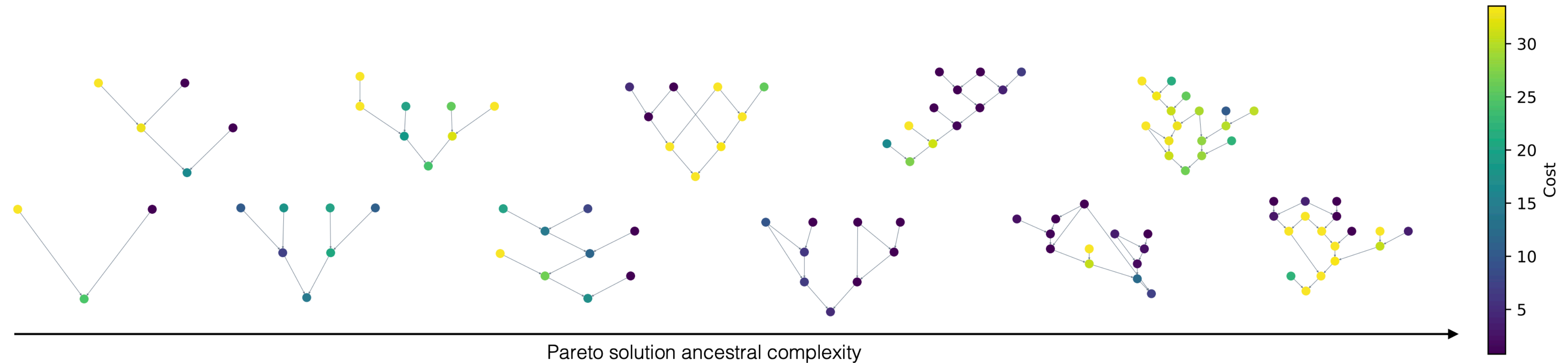
# Qualitative Discoveries



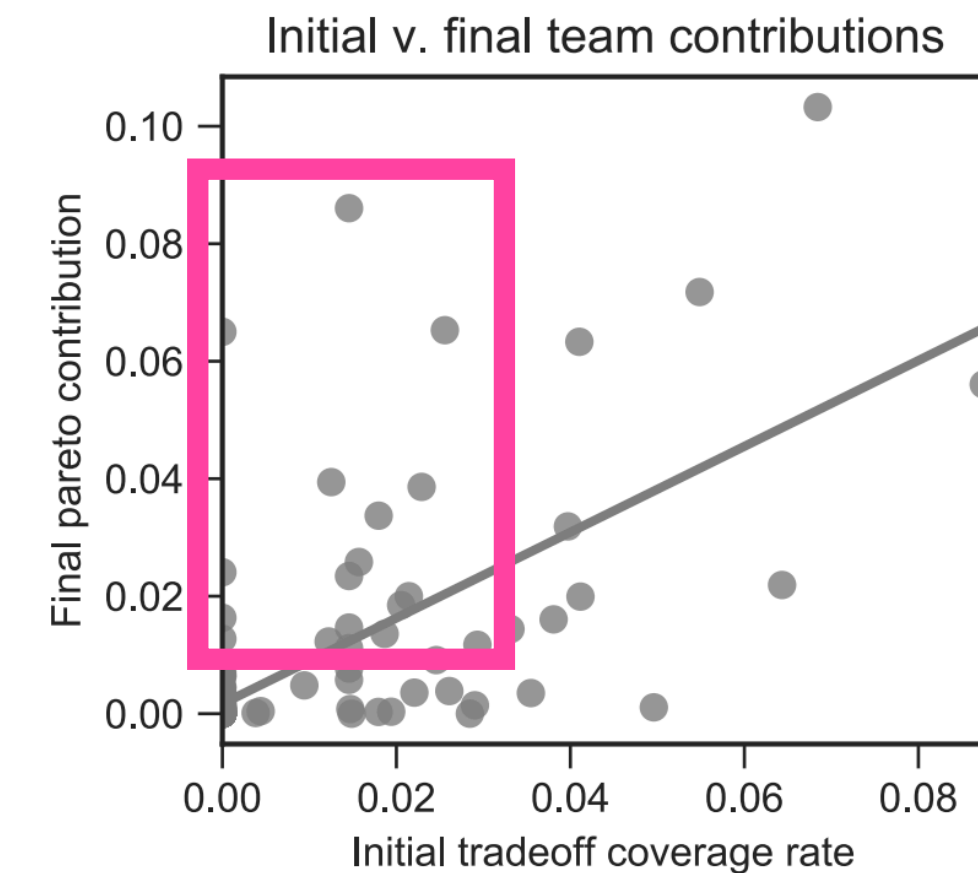
- RHEA uncovered high-level properties of effective Pandemic response policies that could be independent results in the social sciences.



# Tracing Human Contributions



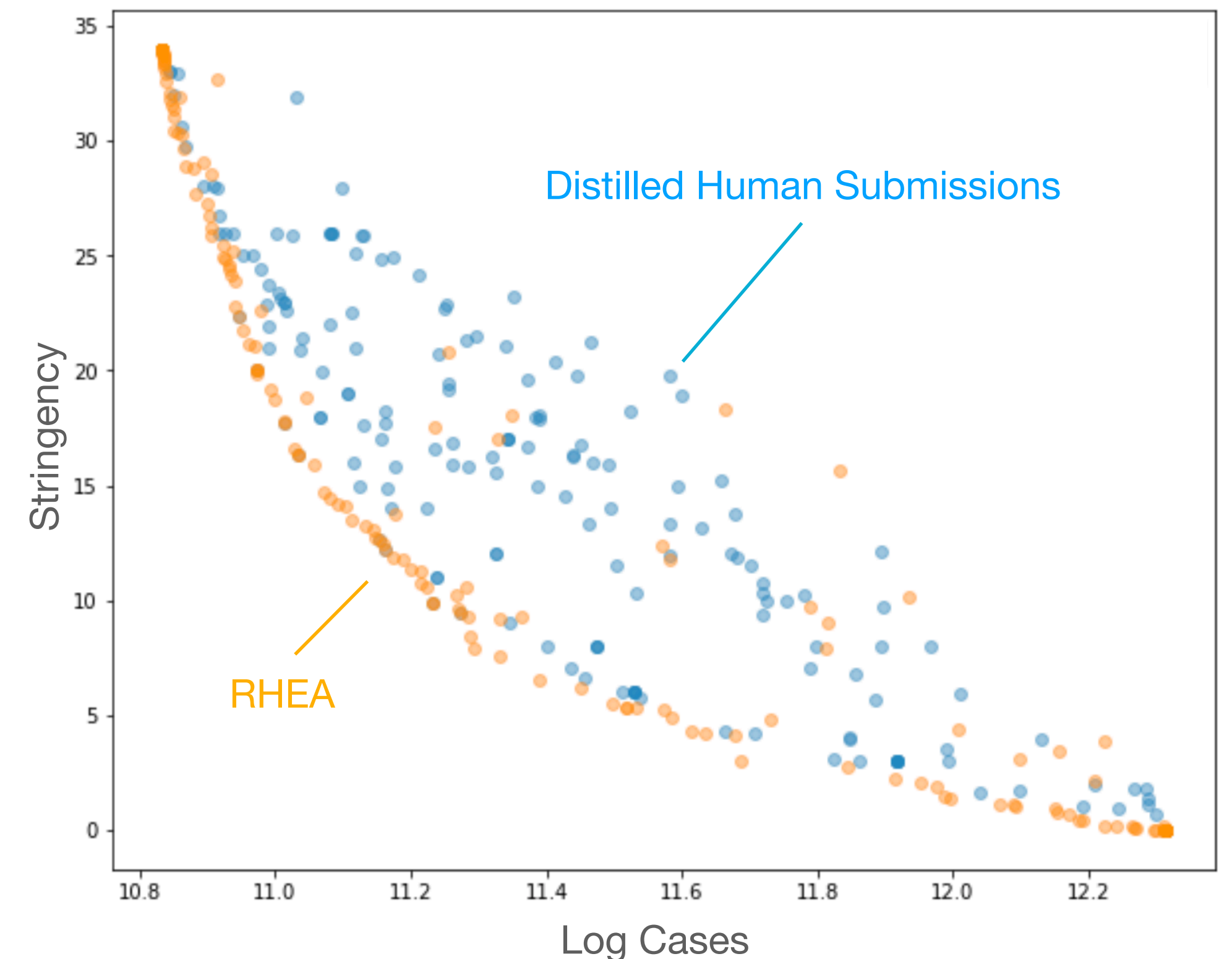
- Credit is assigned back to humans through ancestries
- Some apparently weak submissions make out-sized contributions
- RHEA unlocks their latent potential





# A New Kind of Humies Winner

- Celebrate, incentivize, and solicit diverse human knowledge
- Use evolution to recombine and refine it as optimally as possible
- Beat all humans, but assign credit back to them
- Apply to any problem where diverse human knowledge can be collected
- Unlock the potential of global human expertise







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