

PRISM surfaces candidate signals of unmet genomic care need.

Kamalakkannan Ravi, PhD; Mengshu Nie, MA; Annapurna Poduri, MD, MPH; Cong Liu, PhD

Division of Genetics and Genomics, Boston Children's Hospital; Harvard Medical School. CliGenAI Lab.

1 People ask online for help.

"My mother died of breast cancer young. A free online tool read my 23andMe raw data and lists a BRCA2 variant. My genetic counselor appointment isn't until January, and I'm still a little lost."



A real post, paraphrased for privacy. Clinical status is unknown.

2 PRISM uses an LLM-based pipeline.

Read and extract



Check ClinVar



Draft for review

An earlier lab entry is compared with a later ClinVar summary. Differences need record review.

3 Real-post screening surfaced candidates.

3,900,607

public Reddit posts

11,253

relevant to reinterpretation

123

candidate differences

About \$694 in AI processing fees for one full screening pass.

People and follow-up excluded. Counts are posts, not people.

4 A clinician reviewed 30 selected held-out drafts.

27

stated the change correctly

15

were fit to send



Tiles: 15 correct and fit; 12 correct but unfit; 3 change not stated correctly.

Factual check: against PRISM's comparison. This does not confirm a real change for a person.

5 We did not send it.

No messages were sent.
No users were contacted.

Who should press send?

Next: a stakeholder study with patients, families, clinicians and labs, alongside an agentic, iterative search of public material.



Kamalakkannan.Ravi@childrens.harvard.edu