

BACKGROUND

The Biomedical Data Translator (<https://ncats.nih.gov/translator>) is a program funded by the National Center for Advancing Translational Sciences (NCATS) at the National Institutes of Health (NIH) targeting the following problems: 1) biomedical data and knowledge are heterogeneous, from different areas of research, often disconnected, disorganized, and mired in disparate jargon; and 2) biomedical data and knowledge are vast and represent a scale of contents beyond what humans can manage.

This exploratory survey is the first phase in a multiphase user-centered study. The aim is to learn about conditions that may contribute to prospective users' acceptance and uptake of the Biomedical Data Translator. Subsequent phases will include in-depth interviews and focus groups with prospective users, e.g., for the purpose of conducting a requirements analysis for possible features to be incorporated into the Biomedical Data Translator. The objective of the current exploratory survey is threefold: 1) to understand how the problems described above impact prospective users, 2) to elicit ideas for addressing the problems described above, and 3) to identify individuals interested in participating in subsequent phases of this investigation. Your participation is an opportunity to help shape the Biomedical Data Translator.

SURVEY QUESTIONS

1. Please recall a moment in your research when you might have been negatively impacted by any of the problems targeted by the Biomedical Data Translator (underlined at the beginning of this survey); some examples of negative impacts include:
 - i. Missing knowledge from adjacent disciplines
 - ii. Potentially missing novel insights
 - iii. Being unable to determine the relationship(s) between biomedical entities

Can you please list examples of negative impacts you may have experienced (including, if applicable, the examples of negative impacts listed above)?

[Enter response here (enter as many as you wish, or 'Add' button)]

2. Imagine there is a tool that offsets the negative impacts discussed in Question #1; some examples of features that could be part of such a tool include:
- a. Incorporating knowledge from adjacent disciplines
 - b. Offering novel insights even if not yet validated
 - c. Listing results as relationships between biomedical entities

Can you please list features you would want to be part of such a tool, regardless of perceived feasibility (including, if applicable, the examples of features listed above)?

[Enter response here]

3. **Based on your responses to the previous questions, what *provenance* information and/or *evidence* information would you be interested in being provided with results produced by a tool like that mentioned in Question #2? (Likert scale for each item).**

Score of method used to compute **result**

Publication where the **result** was published

Date study was conducted that generated **result**

Source of retrieved association included in **result**

Cohort or study population size of the study that produced the **result**

Statistical method used to validate **result**

Sentence from publication where association in **result** was extracted

Mutation frequency of **result**

Versioned datasets of sources included in **result**

Other: *[Add more]*

4. **Please choose your occupation(s) from the following list. (Please select all that apply).**

Government employee

Private sector - Corporation employee

Private sector - Consultant

Nonprofit sector - Research scientist/Staff researcher

Academic - Tenured faculty member

Academic - Tenure-track faculty member

Academic - Research scientist/Staff researcher

Contractor

Student - Undergraduate

Student - Master's

Student - Ph.D.

Postdoctoral researcher

Exemption Granted on

Other: *[Please describe]*

5. What is the most advanced degree you have obtained?

High-school diploma/GED

Associate's degree

Bachelor's degree

Master's degree

Doctoral degree

Doctor of Osteopathic Medicine (DO)

Doctor of Medicine (MD)

MD-PhD

Other: *[Please describe]*

6. How long has it been since you obtained your most advanced degree?

Less than 1 year

Between 1 and 2 years

Between 2 and 5 years

Between 5 and 10 years

Between 10 and 20 years

More than 20 years

7. Prior to this survey, were you aware of the Biomedical Data Translator program?

Yes

No

8. Are you now, or were you ever, a contributor to the Biomedical Data Translator program?

Yes

No

9. If you are willing to participate in future user-centered research to help shape the Biomedical Data Translator, please provide your preferred e-mail address for correspondence:

[Enter response here]