Translating Computational Toxicology Data Through Stakeholder Outreach & Engagement

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EPA United States Environmental Protection Agency
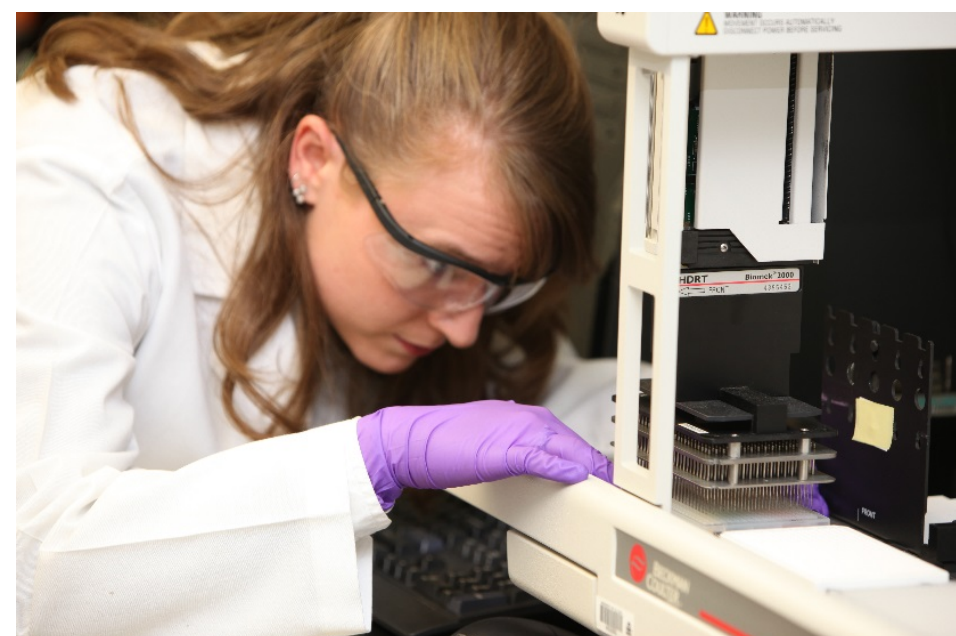www.epa.gov/research/sot

Background

EPA's computational toxicology research is using groundbreaking alternative testing methods in an effort to accelerate the pace of chemical evaluations, reduce reliance on animal testing, and address the significant lack of health and environmental data on thousands of chemicals.

The data resulting from these methods are publicly available through the online iCSS ToxCast Dashboard and complete data files can be downloaded from the ToxCast website.

The new data resulting from these methods include the following chemical information.
- High-throughput hazard data and exposure estimations.
- High-quality chemical structures and annotations as well as physical chemical properties database.
- Chemicals listed by associated categories of chemicals and product use.

Although the results from this new technology have the capacity to enhance risk assessments and regulatory guidelines, the use of this new data requires changing the scientific basis of regulatory decisions that has been used for decades. Achieving this shift requires active stakeholder outreach and engagement.

Stakeholder Outreach & Engagement Approach

Gaining acceptance and trust from stakeholders is integral to using this new data for decision making. To facilitate this, EPA engages stakeholders through a strategic and targeted approach including:
- Communicating with stakeholders multiple times, using strategically selected and step-by-step outreach activities.
- Providing targeted demos and user testing sessions to help stakeholders become comfortable with the new data.
- Requesting feedback from stakeholders and continually incorporating the feedback into dashboard and data download webpage at regular increments.
- Targeting the scientific community and stakeholders who will use data including academia, industry, other US Federal Agencies, State Environmental Agencies, International Gov't Agencies, NGOs such as Environmental Defense Fund, etc

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Outreach Activities

EPA's computational toxicology stakeholder engagement activities target diverse stakeholder groups through the implementation of numerous outreach activities.
- Providing webinars, demonstrations and user sessions.
- Hosting workshops and other events to showcase data and tools.
- Sponsoring exhibit booths at scientific conferences to provide hands-on demonstrations.
- Requesting stakeholder feedback through panel discussions at events, during user sessions, through online surveys and through open dialogue with stakeholders.

- Collaborating with research institutions worldwide to advance the science.
- Promoting availability of data using traditional communication channels including news release, blogs, social media, webpages, fact sheets, etc.

Feedback

Stakeholder feedback is essential to EPA's commitment to remain useful and current. To date, stakeholders have provided feedback through online surveys, panel discussions, user sessions and open dialogue with computational toxicology researchers. A summary of the feedback is provided below.
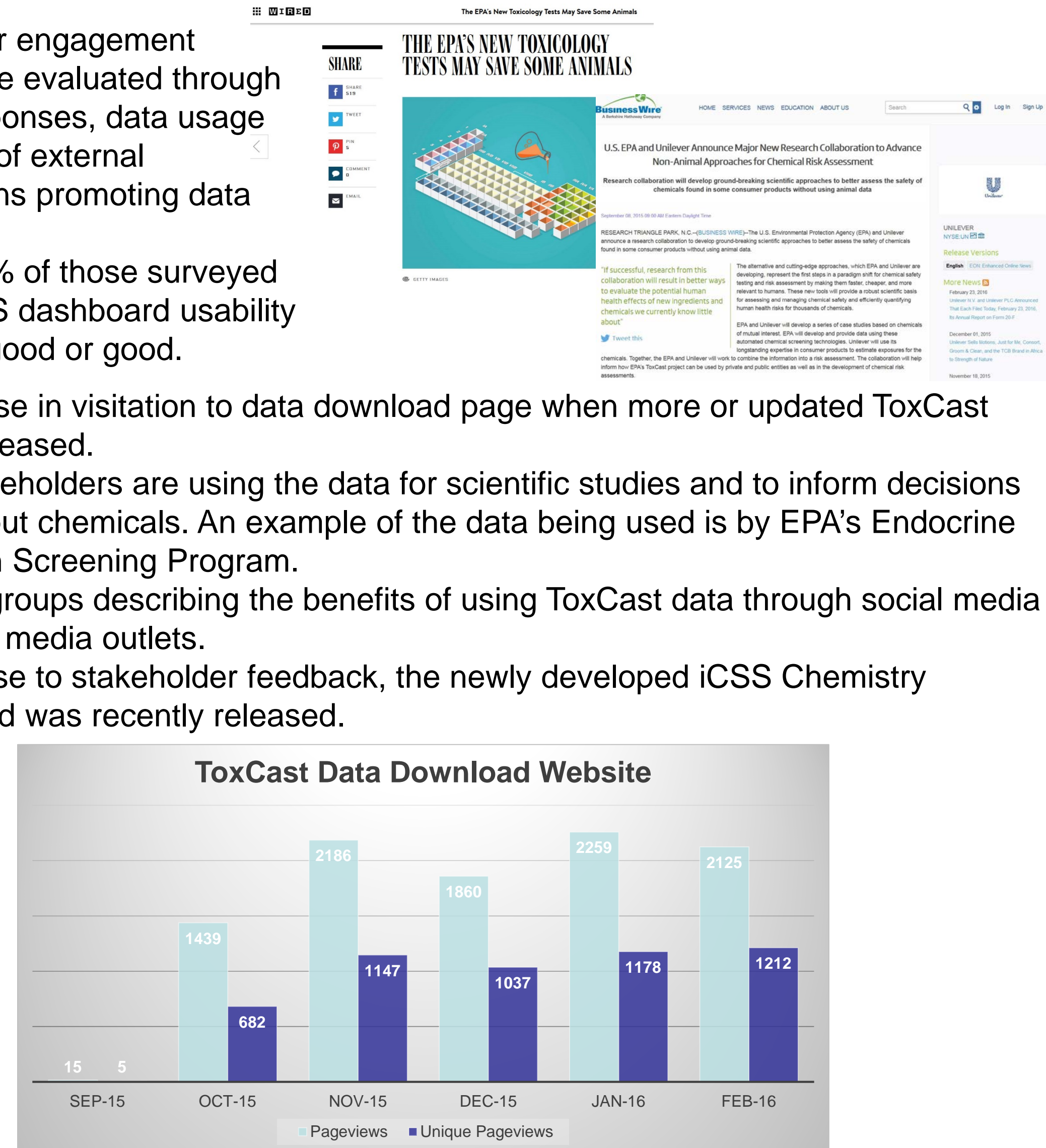- ToxCast Data: Better explanation of terms including assays and chemistry information, retain data from previous ToxCast data releases and provide guidance on how to cite data.
- iCSS ToxCast Dashboard: Add functionality to be able to review all chemical/assay information based on intended target not just searching for one chemical/assay, improve export feature, add reverse toxicokinetic information, improved access to physicochemical characteristics, improve connection of the ToxCast data to high-throughput exposure estimates and consumer product category information.

Results

Stakeholder engagement activities are evaluated through survey responses, data usage and extent of external organizations promoting data availability.
- Over 70% of those surveyed rate iCSS dashboard usability as very good or good.

- An increase in visitation to data download page when more or updated ToxCast data is released.
- More stakeholders are using the data for scientific studies and to inform decisions made about chemicals. An example of the data being used is by EPA's Endocrine Disruption Screening Program.
- External groups describing the benefits of using ToxCast data through social media and news media outlets.
- In response to stakeholder feedback, the newly developed iCSS Chemistry Dashboard was recently released.

ToxCast Data Download Website

	SEP-15	OCT-15	NOV-15	DEC-15	JAN-16	FEB-16
Pageviews	15	1439	2186	1860	2259	2125
Unique Pageviews	5	682	1147	1037	1178	1212

Future Direction

The iCSS ToxCast dashboard and ToxCast data are constantly evolving to improve stakeholder usage and ultimately enhance chemical evaluations.
- iCSS ToxCast Dashboard and ToxCast data will be updated twice a year.
- Stakeholder engagement activities will commence to request feedback on the newly released iCSS Chemistry Dashboard.
- Stakeholder engagement activities will continue. Activities include demos at SOT (come to EPA's SOT booth #1351) and SETAC.