

BLS Disclosure Review Board

Session G-1:

Best Practices and Challenges of Disclosure Reviews

Joshua Klick

Presentation for the

Federal Committee on Statistical Methods

October 23, 2022



Disclosure Limitation- BLS Perspective

- The DRB provides guidance, oversight and approval for disclosure limitation methods used for publication of BLS data products in a manner that maintains respondent confidentiality.
- Protect respondent information from unintentional disclosure
- Employ best practices in addressing disclosure risk.



Overview

- Chartered under the Executive Oversight Board (EOB)
- Representatives from:
 - ▶ Office of Survey Methods Research
 - ▶ Program offices
 - ▶ Office of Administration



Best Practices- SharePoint display

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- Conducts systematic review of proposed data products
- Stays informed about disclosure limitation research and approaches
- Researches alternative disclosure limitation methods

DRB Request

Submit DRB Request
How to Submit a DRB Request?

DRB Request Status

Questions? Contact Us

BLS Disclosure Limitation Practices

BLS disclosure limitation practices for each program as well as program contacts are available from the Tabular Practices workbook.
** All information on this DRB site is for internal BLS use.*

Reports

1. Publishing N-gram Frequencies
2. Publishing Positional Statistics
3. Disclosing Parameters
4. Publishing Ratios or Percentages
5. HHI Report
6. Dominance Rule Report
7. Qualitative Research Report

Members:

- Toth, Daniell, OSMR, 1-7380 (DRB Chair)
- Friel, Daniel, OCWC
- Segarra, Elan, OCWC, 1-7164
- Klick, Joshua, OPLC, 1-5372
- Mateyka, Elizabeth, OA, 1-7072
- Sadeghi, Akbar, OEUS, 1-5094
- Schlipf, John, OEUS, 1-6926
- Yu, Alice, OPLC, 1-6150

Review Log

Presentations

- Jun 9, 2023: BLS Future in Disclosure Limitation
- May 17, 2023: Formal Confidentiality for Establishment Data

Seminar Series

- Mar 28, 2023: Generating Differentially Private Tract-level Synthetic Data for Births in PA
- Feb 14, 2023: Protecting the Identity of Participants in Qualitative Research

References

1. BLS Disclosure Review Board Charter
2. Differential Privacy in the Real World, by Claire McKay Bowen, Nov. 16th, 2020.
3. Data Privacy Bootcamp Materials
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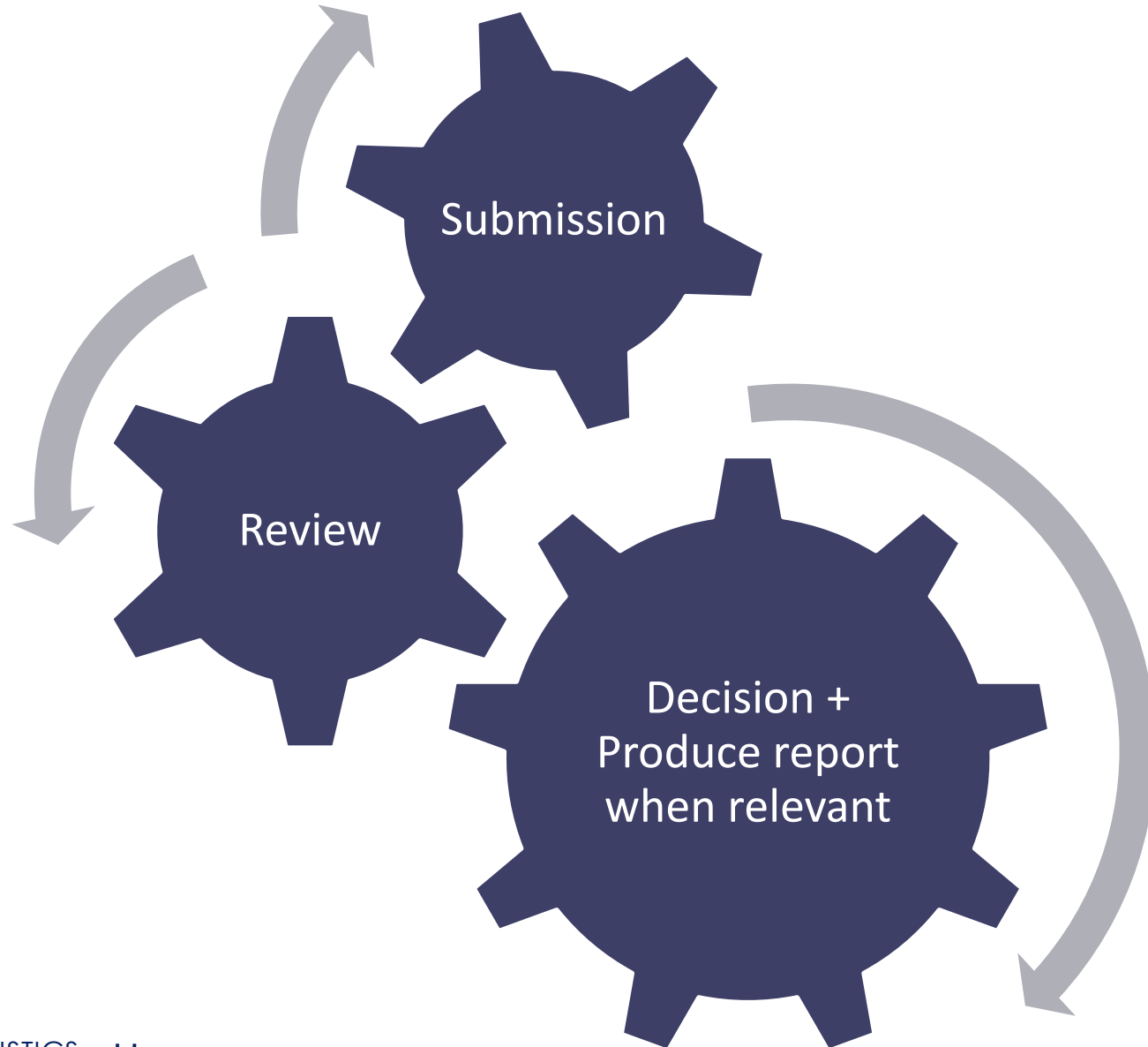
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Best Practices- DRB DLM Request lifecycle



Best Practices- Report example

Publishing Ratios or Percentages

Request information

Question- When is it permissible to publish the percentage or ratio of respondents that provided a specific answer or have a certain characteristic?

DRB Recommendation

Discussion

Examples



Challenges- Transition:

From suppression of sensitive cells (via P%)

■ Advantages

- + Provides accurate totals for cells that are published

■ Disadvantages

- No information for some cells
- Quarterly Census of Employment and Wages (QCEW) suppresses over 60% of all possible cells
- Weak guarantee of protection
- Difficult to manage additional publications

Challenges- Transition: To formal privacy (random noise)

■ Advantages

- + Allows publication of most QCEW cells with small relative error
- + Guaranteed protection under very weak assumptions
- + Provides an easy way to manage new publications of data
- + Protection of one response is independent of others

■ Disadvantages

- Cell totals will have additional error
- Should be optimized for use case

(often used for non-optimized use cases)

Conclusion

- SharePoint improvements are reviewed routinely
- Ongoing research with Penn State University of formal privacy to protect QCEW establishment microdata (no need for cell suppression and applicable for publication/analysis)
- Other research- National Science Foundation funded work with Research Triangle Institute(RTI) and BLS aims to produce a differentially private version of the Survey of Occupational Injuries and Illnesses auto coder.



Contact Information:

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Members:

Daniell Toth- Office of Survey Methods (Chair)

Office of Compensation and Working Conditions- Daniel Friel and Elan Segarra

Office of Employment and Unemployment Statistics- Akbar Sadeghi and John Schilp

Office of Prices and Living Conditions- Joshua Klick and Alice Yu

Office of Administration- Elizabeth Mateyka