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UNITED STATES DISTRICT COURT
 FOR THE NORTHERN DISTRICT OF CALIFORNIA
 SAN JOSE DIVISION

NATIONAL URBAN LEAGUE; LEAGUE OF
 WOMEN VOTERS; BLACK ALLIANCE FOR
 JUST IMMIGRATION; HARRIS COUNTY,
 TEXAS; KING COUNTY, WASHINGTON;
 CITY OF LOS ANGELES, CALIFORNIA;
 CITY OF SALINAS, CALIFORNIA; CITY OF
 SAN JOSE, CALIFORNIA; RODNEY ELLIS;
 and ADRIAN GARCIA,

Plaintiffs,

v.

WILBUR L. ROSS, JR., in his official capacity
 as Secretary of Commerce; U.S. DEPARTMENT
 OF COMMERCE; STEVEN DILLINGHAM, in
 his official capacity as Director of the U.S.
 Census Bureau; and U.S. CENSUS BUREAU,

Defendants.

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CASE NO. 20-cv-5799-LHK

**DECLARATION OF DR. THOMAS A.
 LOUIS, PHD IN SUPPORT OF
 PLAINTIFFS' MOTION FOR STAY
 AND PRELIMINARY INJUNCTION**

EXPERT DECLARATION OF DR. THOMAS LOUIS, PHD

I. Introduction

1. On August 3, 2020, the Census Bureau and Commerce Department announced that the Bureau will stop collecting census data on September 30, 2020 and to report the population totals used for congressional apportionment to the President by December 31, 2020. These revised deadlines will severely compromise the quality, accuracy, reliability, and indeed the legitimacy of the 2020 Census numbers used for apportionment, redistricting, and the many other important data products based on them.

2. The importance of a high-quality census goes well beyond apportionment. Quoting the Census Bureau's website, "The 2020 Census will determine congressional representation, inform hundreds of billions in federal funding every year, and provide data that will impact communities for the next decade."¹

3. I have reviewed the Census Bureau's operational plans for the 2020 Census, the documentation that the Bureau issued describing the actions it is taking in response to the COVID-19 pandemic, its August 3, 2020 press statement announcing its intention to truncate the 2020 Census, its recently issued "2020 Operational Schedule Review," and a variety of other materials that the Bureau has posted to its website. I conclude that the administration's decision to shorten the timelines for data-collection and data-processing in the face of COVID-19 are very likely to negatively affect the accuracy, reliability, and legitimacy of this decade's census count.

II. Qualifications and Retainer Information

4. I briefly describe specific aspects of my qualifications and work experience that establish my credentials as an accomplished statistician and an expert on the Census Bureau and the Decennial Census. I have also attached a copy of my CV to this declaration.

5. I have been retained to provide this declaration for a \$1,000 flat fee.

6. From 2013 to 2015, I served as Associate Director for Research and Methodology and Chief Scientist at the Census Bureau, working under an Interagency Personnel Agreement between the Bureau and Johns Hopkins University. I have held professorships in Biostatistics

¹ <https://2020census.gov/en/census-data.html>.

1 and Mathematics, employment at the Rand Corporation, and have been an active participant in
 2 professional organization activities concerning both the census and statistical research and
 3 methodology more generally. As a result of these roles, I have a deep understanding of the skills
 4 and processes that are necessary to achieve a complete and accurate Decennial Census.

5 7. The Research and Methodology Directorate at the Census Bureau is charged with
 6 conducting research and technology transfer related to survey design, disclosure avoidance, use
 7 of administrative records, statistical methods, economics, and survey measurement. The
 8 Directorate's staff collaborates broadly within and outside the Bureau. In my role as Associate
 9 Director for Research and Methodology and Chief Scientist at the Census Bureau, I gained deep
 10 familiarity with many of the statistical processes and standards necessary to generate a high
 11 quality census. During my tenure, I participated in the weekly management committee meetings
 12 where policy for the 2020 Decennial Census was set, as well as in advisory committees,
 13 including the advisory committee for the 2020 Decennial Census. I chaired the Census Bureau's
 14 data quality standards committee. I also advised and mentored staff in my directorate.
 15 Additionally, I occasionally represented the Bureau externally. In 2016, though no longer
 16 associate director, I continued to advise the Bureau on statistical analyses it uses to produce the
 17 data necessary for making alternative language determinations under Section 203 of the Voting
 18 Rights Act.

19 8. Since 1973, I have held tenure-track and tenured professorships in biostatistics or
 20 mathematics. Since 2002, I have been a Full Professor in the Department of Biostatistics, Johns
 21 Hopkins Bloomberg School of Public Health. In 2018, I became Professor Emeritus in the same
 22 department.

23 9. In addition to the work experience described above, I am an elected member of
 24 the International Statistical Institute and a Fellow of the American Statistical Association, the
 25 American Association for the Advancement of Science (AAAS), and the Institute of
 26 Mathematical Statistics. I am a National Associate of the National Research Council, an
 27 Honorary Life Member of the International Biometric Society, and hold an Honorary Doctorate
 28 from Hasselt University, Belgium. I have served as coordinating editor of the *Journal of the*

1 *American Statistical Association*, co-editor of *Biometrics*, and president of the International
 2 Biometric Society. I chaired the American Statistical Association's Section on Bayesian
 3 Statistical Science, and the Statistics Section of the American Association for the Advancement
 4 of Science. I have served on the National Academy of Science's Committee on National
 5 Statistics and on a variety of panels including the Panel on Estimates of Poverty for Small
 6 Geographic Areas. I also chaired the Panel on Formula Allocation of Federal and State Program
 7 Funds. In 2020, I chaired the committee that reviewed the Joint Program in Survey
 8 Methodology, a graduate-degree program offered jointly by the University of Maryland and the
 9 University of Michigan.

10 10. I have been asked by counsel for the Plaintiffs to comment on the effects on data
 11 quality of the federal government's August 3 decision to end data-collection for the Decennial
 12 Census on Sept. 30, 2020, and report apportionment data to the President of the United States by
 13 Dec. 31, 2020. Specifically, I have been asked to address:

- 14 • The Census Bureau's data-processing operations for the Decennial Census.
- 15 • The importance of the Census Bureau's data-processing operations for the quality
 16 of data products based on the Decennial Census, with specific focus on the state
 17 population totals used for apportionment and the population counts used for
 18 redistricting.
- 19 • Any effects that the decision to halt Decennial Census data-collection on Sept. 30
 20 and truncate data-processing operations will have on the quality of data products
 21 based on the Decennial Census.

22 11. My opinions and judgments in this declaration are based on the knowledge I have
 23 gained through my education and experience. They are my own and do not necessarily represent
 24 those of Johns Hopkins University.

25 12. My declaration will first provide some general background for understanding the
 26 census operations that are endangered by the new truncated timelines. Then, it will explain how
 27 the Census Bureau's various data-collection and data-processing operations work together to
 28 produce a fair, accurate, and legitimate count. From there, the declaration will describe the

1 general consequences that substandard data collection has for census accuracy and how the
 2 Bureau's new, shortened timeline will have serious negative effects on the adequacy of its data
 3 collection. Then, I will describe the major components of the census's data-curation and-
 4 processing operations, explaining along the way how each will be negatively affected by the
 5 Bureau's new, truncated timelines. Finally, I will describe how inaccuracies in census data will
 6 affect two of the Bureau's most significant data products: the population totals used to apportion
 7 the U.S. House of Representatives and the data files that states use to draw electoral districts.

8 **III. Background**

9 13. A successful decennial census requires over ten years of advance planning,
 10 testing, evaluating, innovating, revising, and stress-testing, as well as substantial time developing
 11 questionnaires, webpages, and hand-held devices.² The Census Bureau had to resolve
 12 management challenges, such as renting and equipping field offices, as well as vetting, hiring,
 13 and training hundreds of thousands staff, including the enumerators who will travel to housing
 14 units all around the country to collect their occupants' responses.

15 14. Then, the Bureau must conduct the actual census, first by attempting to encourage
 16 people to self-respond via the internet, hard copy questionnaires, or telephone hotlines. If every
 17 household were to respond in one of these ways, the Bureau would have no need for Non-
 18 Response Follow-Up (NRFU)—the process by which the Bureau, as the term suggests, follows
 19 up directly with housing units that do not provide their answers to the census questionnaire early
 20 in the census-taking process. But, at present, only approximately 64% of households have self-
 21 responded. That leaves about 56 million addresses that hundreds of thousands of census takers
 22 must visit to collect the required information.

23 15. During and after data collection, the Bureau evaluates the information in its
 24 databases, replaces missing values with best estimates, corrects anomalies, assesses the quality of
 25 the resulting data, and improves that data (to the degree possible). Finally, the Bureau judges
 26 each of its data products to determine whether they are "fit for purpose" and releases only that

27 ² See U.S. Census Bureau, *2020 Census Operational Plan*, Version 4.0 (2018),
 28 [https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-](https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf)
[docs/2020-oper-plan4.pdf](https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf).

1 data that the Bureau concludes is fit. The first bodies of information that the Bureau releases are
 2 the state population totals that support congressional apportionment, then the population files
 3 used for redistricting. These two major data releases are followed by a wide variety of data
 4 products based at least in part on the Decennial Census.³

5 16. All the foregoing is very challenging. But the advent of COVID-19 has
 6 considerably amplified these challenges, and, consequently, the risks to achieving the Census
 7 Bureau's mission of "counting every person, counting them once, and counting them in the right
 8 place." For example, as a result of COVID-19, NRFU operations were delayed, the difficulty of
 9 hiring and training enumerators increased, and the willingness of households to interact with
 10 enumerators decreased. In this context, truncating or otherwise altering census processes to meet
 11 the revised deadline of September 30, 2020 to complete NRFU data collection, the December 31,
 12 2020 deadline for delivering the population counts to be used for apportionment, and the March
 13 30, 2021 deadline for delivering the population counts to be used for redistricting, will degrade
 14 the actual and perceived quality of the Decennial Census data, as compared to the data that the
 15 Bureau would be able to produce if it could continue collecting data until October 31, 2020,
 16 deliver the apportionment counts in April 2021, and transfer the redistricting data to the states in
 17 July 2021. These circumstances will also degrade trust in the Decennial Census data.

18 17. The Census Bureau is staffed by skilled and dedicated civil servants, and I believe
 19 that they will do everything in their power to meet the revised deadlines. But for the Bureau's
 20 staff to do so, some key operations will need to be eliminated or abridged. In so doing, there will
 21 be a considerable degradation in census quality and its validity to support policy.

22 18. For more than ten years, the Bureau has been planning, experimenting, and lab-
 23 and field-testing for the 2020 Census. Along the way, the Bureau has been challenged by funding
 24 shortfalls and, now, COVID-19. The new deadlines will compromise the quality of collected data
 25 and considerably increase the need for error correction, imputation, and other "cures" that are

26
 27 ³ See U.S. Census Bureau, *2020 Census Detailed Operational Plan for: 19. Response Processing*
 28 *Operation (RPO)*, Version 2.0 (2019), https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/RPO_detailed_operational_plan-v2.pdf.

only, at best, partial fixes. Once NRFU is terminated, it will be impossible to go back into the field because field offices will be closed and field staff terminated. Additional time for NRFU would considerably improve the completeness and quality of collected data by helping the Census Bureau avoid lost opportunities.

IV. Complex, Integrated Systems

19. Successfully planning, implementing, and completing the 2020 Census is a complex task. This is true for the Decennial Census as a whole, as well as its many component operations and sub-operations, including the operations the Bureau uses to collect the data it receives from well over one-hundred million households and then process it into usable forms. This complexity is well documented in the Bureau's own reports.⁴ Figures 1, 2, and 3—which are included at the end of this declaration and which are drawn from the Bureau's own publicly available operational plans—graphically illustrate some of the many operations that must be successful for the census's results to be accurate and reliable. Some of these operations proceed in parallel, others sequentially, many recursively.

20. The Bureau's data-collection and data-curation/processing operations have benefitted from considerable automation, but clerical and expert attention is still needed for many components. The need for personnel time is most obvious for NRFU operations, for which very large numbers of vetted and trained field staff are key. But many components of the post-collection phase also require considerable personnel time and expertise. Importantly, substandard performance on some tasks challenges subsequent tasks and can degrade the overall quality of the census data. This is true both within the data-collection and data-processing operations, as well as between those two operations. Under these circumstances, the federal government's decision to shorten the Bureau's remaining time to complete the 2020 Census will create a cascading chain of consequences. First, shortening the NRFU timeline will result in substandard data collection. Then, such substandard collection will increase the scope of the work that the Bureau will have to perform in the data processing phase. At the same time, degraded data,

⁴ See *2020 Census Detailed Operational Plan for: 19. Response Processing Operation (RPO)*, version 2.0, 2019); *2020 Census Operational Plan*, version 4.0 (2018).

truncated timelines, and labor shortages will significantly constrain the Bureau's ability to correct for any data collection errors it encounters. Together, these conditions will lead to a substantially less accurate, lower quality 2020 Census.

V. Consequences of Substandard Data Collection

21. The quality, or lack thereof, of the data collection operation, including Non-Response Follow-Up (NRFU), is the most obvious, and likely the most important, example of the cascading consequences of substandard census performance that the Bureau's new timelines will produce. The quality of the data that the Census Bureau collects (a) directly increases with the number of households for which the Bureau has complete data, (b) is aided by the number of households for which the Bureau has partial data, and (c) is degraded by the number of households with no directly-collected information.⁵ Information is directly collected if it is obtained by self-response (internet, telephone, or hard-copy) or obtained by field staff during NRFU.

22. There are data quality assessments and enhancements required for all data that the Bureau collects. But, the challenges of assessing and enhancing data are greatest for households that require all or most of their information to be "imputed"—that is, derived from administrative records and other sources because the people whom the data concerns have not responded directly to the census. The Bureau uses modeling to develop imputation models over the pre-census period, but these models always require additional expert inputs in the face of the realities the Bureau encounters in the field when the census begins. Crucially, the less data the Bureau has about housing units in a given geography, the more difficult it becomes for the Bureau to correctly impute households. I discuss this problem at greater length in Section XI below. Ultimately, failure to collect high-quality data during NRFU will seriously impact the Bureau's processing operations. By constraining data collection, the Bureau's new timelines will create significant obstacles for data processing.

⁵ See Joseph J. Salvo, *The Importance of Self-Response in the 2020 Census*, <https://www1.nyc.gov/assets/planning/download/pdf/planning-level/nyc-population/census2020/importance-self-response.pdf> (last visited Aug. 23, 2020); Joseph J. Salvo et al., *Census 2020 Why Increasing Self-Response is Key to a Good Count*, Significance (Jan. 29, 2020), <https://rss.onlinelibrary.wiley.com/doi/10.1111/j.1740-9713.2020.01356.x>.

VI. Consequences of Substandard Data Collection for Hard-To-Enumerate Populations

23. In addition to the inherent challenge of imputing a large amount of data, the challenge is considerably increased for “hard to count” geographic and demographic groups. The Bureau makes special efforts to obtain self-reported information from these groups, because the quality of administrative records and other information used in imputation models is lower for them.⁶ Therefore, NRFU is central to the Bureau’s operational plans to maximize directly-collected information. NRFU must be as high-quality and complete as possible, so that directly collected data can be used with relatively little need for quality enhancement (*see* Section VIII). A shortened NRFU time reduces the amount and quality of information collected directly from the homeless, minority groups, group quarters (facilities such as nursing homes, prisons, colleges), and other groups. And, because of the relatively poor quality of the data available to impute the members of such hard-to-count groups that the Bureau misses during NRFU, a shortened NRFU period imperils the Bureau’s ability to provide trustworthy data for these groups.

VII. Additional Impact of Substandard Data Collection

24. Though a principal role of NRFU is to obtain data from households and individuals who have not self-responded, its role is far greater. NRFU can resolve issues that cannot be resolved as well (or at all) in the data processing phase. One example of a problem that NRFU can resolve more easily than later operations is “non-ID response,” that is, census responses that people have submitted through the Bureau’s website without providing a census-issued ID number. Non-ID response may produce an address that is not in the Bureau’s Master Address File (MAF), which the Bureau uses to contact and track every housing unit in the country. When that happens, the Bureau’s field staff must go to the presumed location during NRFU, check the response for validity against the housing unit they locate at that address, and possibly correct the information earlier submitted through the website. Also, many duplications

⁶ See Dave McClure et al., *Administrative Records in the 2020 US Census: Civil Rights Considerations and Opportunities*, Urban Institute (2017), https://www.urban.org/sites/default/files/publication/90446/census_ar_report.pdf; Z.H. Seeskin et al., *Constructing a Toolkit to Evaluate Quality of State and Local Administrative Data*, Int’l J. Population Data Sci. (Jan. 2019), <https://ijpds.org/article/view/937/1031>.

1 and vacancies can be resolved in the field. But these problems can only be resolved while field
 2 operations are active. As these examples reinforce, shortening the time for NRFU, as the
 3 Administration has declared and the Bureau has implemented, will cause the quality of the data
 4 that the Bureau will collect to be substantially worse.

5 **VIII. Data Processing and Curation**

6 25. As a baseline matter, even if all households, group quarters, and individuals self-
 7 responded to the census, the Bureau would still have to invest considerable work and time to
 8 make the data fit for use. Among the many tasks that the Bureau has to perform include:

- 9 • transforming written responses into code that computers can read;
- 10 • checking (and ideally fixing) illogical relations among data items, for example a
 11 parent who is younger than their child;
- 12 • checking the accuracy of geocoding (location), for example an address in one
 13 state that is geocoded to another;
- 14 • detecting and remediating over- or under-counts in various domains (such as
 15 different geographic areas or demographic groups);
- 16 • conducting the census count review; and,
- 17 • generally assessing and upgrading data quality and reliability.

18 26. Some processes are substantially sequential, requiring data to be collected before
 19 being processed. But many components of data curation are recursive. This means that a
 20 reviewer must take an initial pass through the data to identify issues, ideally resolve those issues,
 21 and then revisit the resulting data looking for new or additional issues. Additionally, staff, time,
 22 and other resources are needed to check that all aspects of the computer programming are
 23 correct, and some issues only emerge when the actual data are being processed.

24 27. Though many processes are automated, many require expert input, and therefore
 25 require time. For example, the Bureau has to a large degree automated outlier detection and
 26 identification. The goal of detection is to identify data items, individuals, or households that have
 27 values that appear anomalous relative to previously collected information or the predictions of
 28 the Bureau's statistical models. Examples include the age structure of a housing unit occupied

1 by a family with the same name as in the previous census, that is incompatible with the ten-year
2 interval; or a number of dependent-aged children that is incompatible with tax records.

3 28. When the Bureau identifies outliers, it must then search for additional information
4 to correct them. Many of these activities require expert input. As is the case in all data curation
5 contexts, a computer algorithm cannot do it all. A person reviewing suspected outliers must ask
6 whether the problematic value is idiosyncratic, or if it is a marker of a more general problem. If
7 the former, can it be fixed? If the latter, can the more general problem be identified and the data
8 adjusted? In the census context, an example of a general problem is that an enumerator has
9 reported a large amount of inaccurate data. If NRFU is still active, some can be corrected in the
10 field. Another example, one that operates in all contexts, is outliers induced by computer
11 programming errors. Generally, these can be fixed in the data curation phase. In general, some
12 error remediation can occur while NRFU is active, some once NRFU is closed, some will be
13 difficult to resolve completely.

14 29. These are all time-consuming operations that will be made harder by a truncated
15 NRFU period, both because it will reduce the time available to conduct field corrections of
16 anomalies, and will also increase the amount of missing data that must be addressed by data
17 curation, time that hasn't been made available.

18 **IX. Impact of Revised Timelines**

19 30. Based on my knowledge and experience, it is my opinion that the Bureau's
20 revised timelines have forced it to cut corners to meet the December 31, 2020 and March 30,
21 2021 deadlines. For example, in the Bureau's August 17, 2020 Review of 2020 Operational Plan
22 Schedule, the Census Count Review Operation is not mentioned.⁷ The omission of the Count
23 Review Operation is a point of significant concern, to the extent that omission reflects the
24 Bureau's decision either not to conduct it, or to conduct it in a less complete or robust manner.
25 The Count Review is an important quality control operation. The Count Review Operation helps

26
27 ⁷ See Albert E. Fontenot & Timothy P. Olson, *Review of 2020 Operational Plan Schedule* (Aug.
28 17, 2020), <https://www.census.gov/content/dam/Census/newsroom/press-kits/2020/2020-operational-plan-schedule-review.pdf>.

1 enhance the accuracy of the 2020 Census by, among other things, “[e]valuating census responses
2 and subsequent data files at multiple levels of geography for reasonableness and verifying that
3 edits have been properly applied.”⁸

4 31. This is a very time-consuming and important operation, which the Census Bureau
5 has previously concluded is essential to an accurate count. Eliminating it will help the Bureau
6 achieve the December 31, 2020 deadline for delivery of apportionment data, but will do so at a
7 considerable cost in the quality and credibility of that data.

8 32. The Bureau’s latest schedule highlights additional concerns. For example, the last
9 item on slide 9 of the August 17, 2020 Review of 2020 Operational Plan Schedule reports,
10 “Streamlining backend processing to deliver apportionment counts by the statutory deadline of
11 December 31, 2020.” Inevitably, streamlining will degrade quality, because the systems and
12 procedures that have been developed and tested over the decade are designed to be both
13 necessary and sufficient. So, alteration will necessarily depart from these best practices.

14 33. Additionally, slide 17 reports that, “Professional career staffers at the Census
15 Bureau are evaluating the processes and procedures and incorporating technological
16 developments, such as the improvements in the quality of the Master Address File, to determine
17 how to effectively and accurately deliver apportionment counts by the statutory deadline of
18 December 31, 2020.” The slide contains no information to suggest that the evaluation will reveal
19 shortcuts that will produce high-quality counts by the deadline. In any event, any shortcut that
20 the Bureau would identify through this evaluation would require extensive assessment to
21 determine that it is fit to purpose. The timeframe that the Bureau has now imposed on the process
22 is unlikely to support that robust and necessary assessment.

23 34. Finally, all of the Bureau’s post-data collection activities are compromised by the
24 requirement that Bureau personnel dedicate resources to developing population files on the
25 citizen voting-age population of each state, to comply with an executive order from President
26 Trump. Even under appropriate timelines for other activities, diversion of resources to this task

27 ⁸ U.S. Census Bureau, *2020 Census Detailed Operational Plan for: 23. Count Review Operation*
28 *(CRO)*, Version 1.0 (2019), <https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/CRO-detailed-operational-plan.pdf>.

1 would be damaging. But under the shortened deadlines, this diversion of resources will be
 2 especially damaging.

3 **X. Administrative Records**

4 35. Several of the processes outlined above can—under certain circumstances—be
 5 aided by information in administrative records, even in cases where no data are missing for a
 6 household. Incomplete or substandard data collection adds the need to impute missing values, as
 7 well as increases the Bureau’s workloads for error-checking and -adjudication. Figures 2 and 3
 8 —both of which are drawn from the Bureau’s detailed operational plans—display the
 9 complexities and dependencies of these processes. In 2020 Census Supporting Statement Part A,
 10 the Census Bureau indicates that 2020 Census operations and assessments would substantially
 11 rely on federal administrative records (SSA, IRS, CMMS, HUD, USPS, etc.), state records
 12 (SNAP, WIC, etc.) and local records (AdRecs), as well as third-party data from commercial
 13 operations and preexisting Census Bureau information (such as data from previous decennial
 14 censuses and the American Community Survey). Under the Bureau’s original plans for the 2020
 15 Census, this information would be used to enumerate or help enumerate or validate (i.e., check to
 16 see if collected data are compatible with information from other sources) several millions of
 17 households. It would also be used to reduce the NRFU workload. Decades of researching,
 18 collecting, and harmonizing this data undergird this integral component of census operations.

19 36. But, while administrative records can increase efficiency and accuracy, their use
 20 is by no means push-button. For example, state and local records vary in quality, and relations
 21 amongst data items from different sources can vary by geography.⁹ These and other features
 22 require considerable time and expertise in the data-processing stages to implement correctly.

23 37. Cutting the census timelines short will reduce the quality of the data—that is,
 24 increase the distance between delivered and actual values.

25 **XI. Imputation**

26 38. Along with administrative records, imputation is used to fill in incomplete

27 ⁹ See Nat’l Acad. of Sci., Engineering, & Med., *Innovations in Federal Statistics, Combining*
 28 *Data Sources While Protecting Privacy* (2017), [https://www.nap.edu/catalog/24652/innovations-](https://www.nap.edu/catalog/24652/innovations-in-federal-statistics-combining-data-sources-while-protecting-privacy)
[in-federal-statistics-combining-data-sources-while-protecting-privacy](https://www.nap.edu/catalog/24652/innovations-in-federal-statistics-combining-data-sources-while-protecting-privacy).

1 response records using data from “similar” households. The validity of any imputation depends
 2 on sophisticated matching algorithms to identify “similar” units and relevant administrative
 3 records. Imputed values can, if arrived at carefully and based on high-quality data, have good
 4 validity. But, of course, the Bureau would very much prefer to have directly collected
 5 information as a starting point, because directly collected information is higher quality data.¹⁰

6 39. The need for massive imputation taxes staff time and can tax the pool of donor
 7 households—that is, households with attributes similar to the one with missing information—
 8 used to fill in missing information because it may lead to that pool running out of good matches.
 9 What this means, concretely: A large portion of imputation depends on “borrowing” information
 10 from other, “similar” households. As the need to impute increases, the relative number of good
 11 matches decreases. This is especially true for populations such as a small minority group in a
 12 census block or block group. As for many other data-processing operations, high quality
 13 imputation takes time. If the time devoted to it is reduced, there will likely be housing units with
 14 only partially resolved issues, but the Bureau will need to treat them as resolved, resulting in
 15 poor quality. For example, administrative records or paradata (context information collected by
 16 field staff) may show that a housing unit is occupied. But, the Bureau might not succeed in
 17 collecting any data from the unit. Because the unit is occupied, the Bureau will have to use
 18 imputation to produce a count of the residents. Due to the lower quality of administrative records
 19 for hard-to-count populations, the imputed values are likely to be less accurate for hard -to- count
 20 groups than for the relatively easy to count.¹¹ A situation such as this lays the foundation for
 21 differential undercounts, including racial and ethnic differential undercounts, and a generally less
 22 accurate and fair census. Foreshortened NRFU will create many such situations.

23 **XII. Undercount and Overcount**

24 40. Under- and over- counting in general biases counts, as do under- and over-

25 _____
 26 ¹⁰ See Joseph J. Salvo, *The Importance of Self-Response in the 2020 Census*,
 27 [https://www1.nyc.gov/assets/planning/download/pdf/planning-level/nyc-](https://www1.nyc.gov/assets/planning/download/pdf/planning-level/nyc-population/census2020/importance-self-response.pdf)
 28 [population/census2020/importance-self-response.pdf](https://www1.nyc.gov/assets/planning/download/pdf/planning-level/nyc-population/census2020/importance-self-response.pdf) (last visited Aug. 23, 2020)

¹¹ See Dave McClure et al., *Administrative Records in the 2020 US Census: Civil Rights Considerations and Opportunities*, Urban Institute (2017), https://www.urban.org/sites/default/files/publication/90446/census_ar_report.pdf.

counting for specific geographic or demographic groups. The bias can influence apportionment, redistricting, and a variety of other uses of census products. As for most Census operations, the situation is complex. The Bureau's ability to identify and remediate problems with the data depends on previous Decennial Census data and other information, including administrative records. Pre-release record-matching of addresses and names is used to identify and reduce over-counts.

XIII. Apportionment

41. A great deal of curation is necessary before 2020 Census data are fit for use. The challenges depend to a degree on the intended use, and while it is the case that producing accurate state-wide total counts is less challenging than providing counts for smaller geographic or demographic domains, most of the issues and procedures identified in Section VIII must be addressed or deployed before apportionment figures should be delivered to the President and Congress. For example, it is well known that children under 5 years old are under-counted. Because of this systemic undercounting problem, a state's total population count will be lower than the true, underlying value.

42. One aspect of this systemic undercounting issue is key for apportionment. The percentage of children under 5 years old varies by state, as does the age-specific under-count. Consequently, when this undercount manifests, state-specific computed "shares" (percents) of total U. S. population will be different from their true, underlying shares, and congressional apportionment may be different from what would be produced by accurate data. This small example communicates the general idea. But the challenge is by no means small because there are a large number of domains (including, age, race, urban/rural, and citizenship status) where inaccuracy could generate inappropriate apportionment. Whatever the causes, if the deviations from the true, underlying state populations are large enough and spread unequally across states, state-specific shares of the U. S. population will differ from their true, underlying values. To achieve this accuracy goal, curation must be effective, and effectiveness requires considerable time and expertise. Meeting the current December 31, 2020 deadline will severely compromise the effectiveness of these processes and thereby will compromise the success of the

1 apportionment count.

2 **XIV. Redistricting**

3 43. By March 30, 2021, the Bureau plans to send redistricting counts to the states.
 4 This information is used to redraw legislative districts based on population changes. All of the
 5 challenges so far identified operate with additional force in developing high-quality, redistricting
 6 information. Accuracy is required at fine geographic and relatively fine demographic scales.
 7 Truncating field collection and data curation will severely compromise the quality of the
 8 redistricting data.

9 **XV. Coda**

10 44. In summary, truncation of the time for field operations and data curation,
 11 especially in the midst of the COVID-19 pandemic, will severely compromise the quality of the
 12 census data to be used for apportionment, redistricting, for policy and economic development,
 13 and for research. All these uses and more are key pillars of our democratic society, and every
 14 effort should be made to “get it right.” The Bureau will most likely release numbers at the end of
 15 the census process. But if the quality of those numbers is low, fair apportionment and
 16 redistricting will be compromised. Widespread perceptions of inaccuracy, for example generated
 17 by post-release corrections will degrade trust in these numbers specifically, in 2020 decennial
 18 data more generally, and, likely, in all other Census Bureau produced information. Restoring the
 19 Spring and Summer 2021 deadlines to deliver curated and processed data will provide the
 20 Bureau time to substantially improve all of its products.

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Tables and Figures

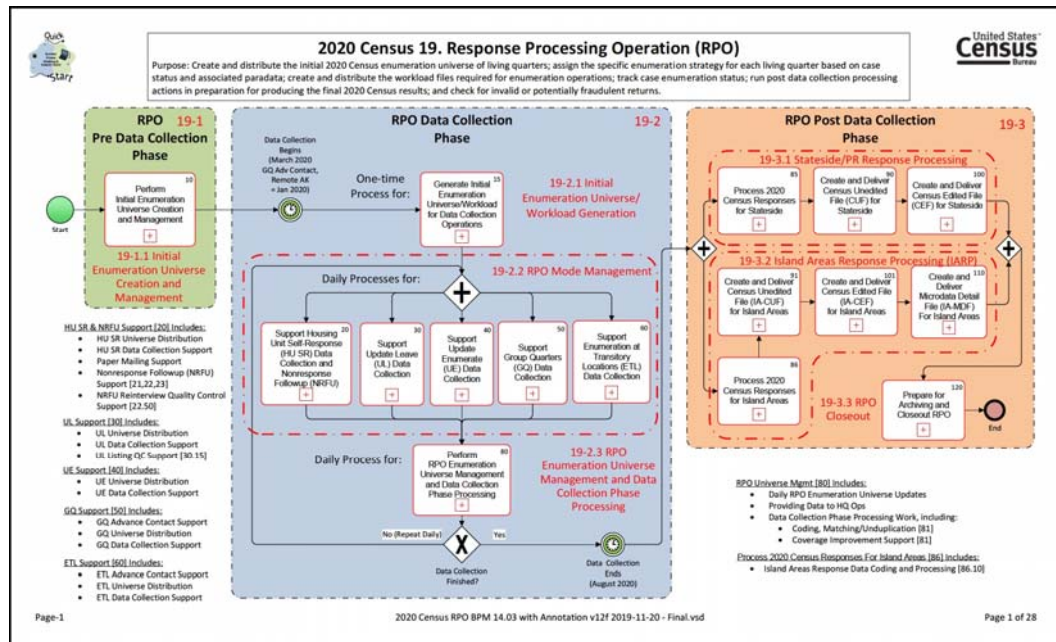


Figure 1: RPO Operational Context Model

Figure 1: Top-level business process model, Figure 01 in 2020 Census Detailed Operational Plan for: 19. Response Processing Operation (RPO), version 2.0, 2019.

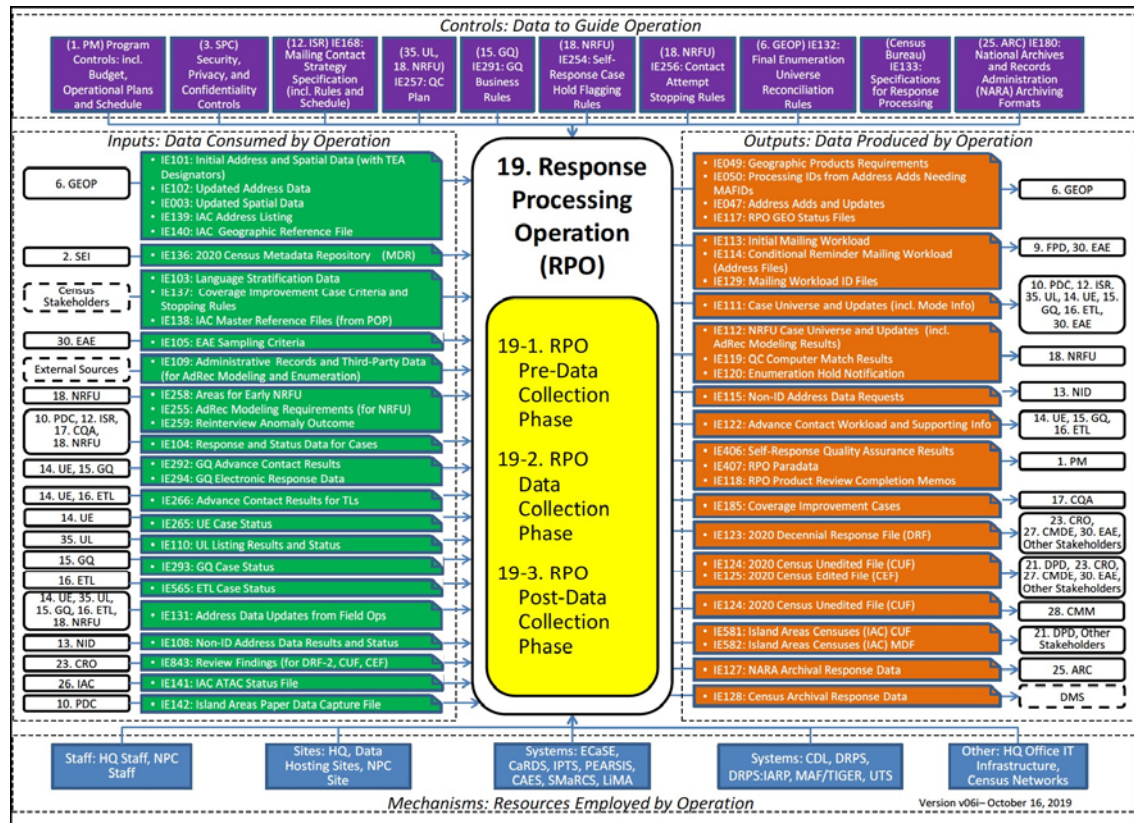


Figure 3: Response Processing Operation (RPO) Context Diagram

Figure 2: Context Diagram, Figure 03 in 2020 Census Detailed Operational Plan for: 19. Response Processing Operation (RPO), version 2.0, 2019.

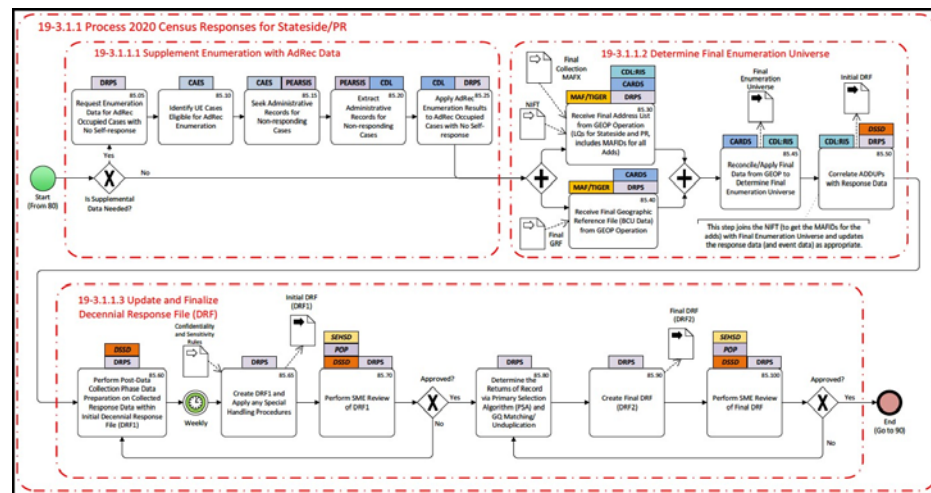
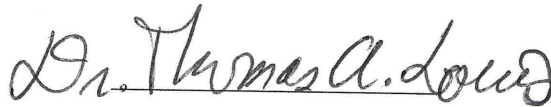


Figure 58: Process 2020 Census Responses for Stateside/PR

Figure 3: Constituent activities for processing Stateside and Puerto Rico, Figure 58 in 2020 Census Detailed Operational Plan for: 19. Response Processing Operation (RPO), version 2.0, 2019.

1 Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true
2 and correct.

3 Executed on August 24, 2020 at St. Michaels, Maryland.
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7 Dr. Thomas A. Louis, Ph.D.
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August 15, 2020

CURRICULUM VITAE

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Education

1966 BA Dartmouth College, with honors in Mathematics
 1972 PhD Columbia University, Mathematical Statistics

Principal Professional Appointments

2018– Professor Emeritus of Biostatistics, Johns Hopkins Bloomberg School of Public Health
 2002–2017 Professor of Biostatistics, Johns Hopkins Bloomberg School of Public Health
 2013–2015 Associate Director for Research & Methodology and Chief Scientist, U. S. Census Bureau
 2000–2002 Senior Statistical Scientist, The RAND Corporation
 1987–2000 Professor of Biostatistics, U of Minnesota School of Public Health
 1987–1999 Head of Biostatistics, U of Minnesota School of Public Health
 1987–2000 Professor, U of Minnesota School of Statistics
 1979–1987 Associate Professor of Biostatistics, Harvard School of Public Health
 1973–1979 Assistant Professor of Mathematics, Boston University
 1972–1973 NIH Postdoctoral Fellow, Mathematics, Imperial College, London
 1971–1972 Lecturer, Department of Mathematical Statistics, Columbia U
 1970–1971 Consultant, IBM Thomas J. Watson Research Lab., Yorktown Heights, NY
 1966–1967 Actuarial Trainee, Chubb and Son, New York

Other Professional Appointments

2018–2020 Expert Statistical Consultant, Center for Drug Evaluation & Research,
 Food & Drug Administration
 2018– Affiliate Professor of Statistics, George Mason University
 2016– Affiliated member, The Johns Hopkins Spatial Science for Public Health Center
 2016 Distinguished Senior Research Fellow, U. S. Census Bureau
 2012–2016 Core faculty member, Johns Hopkins Armstrong Institute for Patient Safety and Quality
 2011 “Summer at Census” Scholar
 2001–2003 Adjunct Professor, Epidemiology & Biostatistics, George Washington U
 2000–2002 Adjunct Professor, Biostatistics, Johns Hopkins Bloomberg SPH
 1999 Visiting Scholar, Committee on National Statistics, National Academy of Sciences
 1995–1996 Visiting Professor, Afdeling Medische Statistiek, U of Leiden, NL
 1994–2000 Member, U of Minnesota Cancer Center
 1991–1998 Adjunct Associate, Hubert H. Humphrey Inst. of Public Affairs, U of Minnesota
 1991–1996 Adjunct Professor, Biostatistics, Emory University School of Public Health
 1988 Visiting Professor, Tongji Medical U, Wuhan People’s Republic of China
 1986 Visiting Scientist, Center for Mathematics and Computer Science, Amsterdam NL
 1984 Visiting Professor, Biostatistics, U of North Carolina, Summer Term
 1979–1981 Director, Biostatistics Consulting Laboratory, Harvard School of Public Health
 1974–1979 Consultant, Boston University Medical School

Other Professional Appointments (continued)

- 1974–1979 Member, Boston University Cancer Center
 1969–1970 Summer Employee, IBM T. J. Watson Research Lab., Yorktown Heights, NY

HONORS AND AWARDS

- 1967–1971 Fellow of the Faculty, Columbia University
 1985 Elected member, International Statistical Institute
 1988 Fellow of the American Statistical Association (ASA)
 1988 Delta Omega Honorary Public Health Society
 1991–1993 President-elect, president, past; Intl. Biometric Soc., Eastern North American Region (ENAR)
 1996 Fellow of the American Association for the Advancement of Science (AAAS)
 2003 ENAR President's Invited Address, "Aids to Statistical Navigation"
 2005–2008 President-elect, President, Past-president; International Biometric Society
 2010–2013 Chair-elect, Chair, Retiring Chair, AAAS Statistics Section (U)
 2014 Charles L. Odoroff Memorial Lectureship, University of Rochester
 2016 Honorary Life Member, International Biometric Society
 2016 National Associate of the National Research Council
 2017 Fellow of the Institute of Mathematical Statistics
 2018 Doctor Honoris Causa, Hasselt University, Belgium

PROFESSIONAL ACTIVITIES**Memberships**

- American Association for the Advancement of Science
 American Association of Public Opinion Research
 American Statistical Association, PStat®
 Institute of Mathematical Statistics
 International Biometric Society
 International Society for Bayesian Analysis
 International Statistical Institute
 Royal Statistical Society

Editorial

- 2018 Associate Editor, special issue of *The American Statistician* on statistical inference
 2017– Associate Editor, *Annual Review of Statistics and Its Application*
 2011–2016 Editorial Committee, *Annual Review of Statistics and Its Application*
 2009–2011 Co-editor, *Biometrics*
 2006–2008 Coordinator, IBS Prose Editing Project
 2004–2008 Editorial Board, *Biostatistics*
 2003–2008 Editorial Board, *Clinical Trials*
 2002–2002 Co-editor, Formula Funds Allocation special issue, *Journal of Official Statistics*
 2001–2003 Editor & coordinating editor, *J. Am. Statist. Assoc., Applications and Case Studies*
 1999–2002 Editorial Board, *Applied Stochastic Models in Business and Industry*
 1999–2000 Associate Editor, *Controlled Clinical Trials*
 1998–2000 Associate Editor, *Statistical Science*
 1997–2018 Editorial Board, Chapman&Hall Series on Statistics and Applied Probability
 1996–1999 Associate Editor, *statistica neerlandica*
 1992–1998 Co-Editor, *Chance*
 1993–1995 Editorial Board, *ASA-SIAM Series on Statistics and Applied Probability*
 1989–1994 Editorial Board, *Statistics in Medicine*
 1988–1991 Associate Editor, *JASA Theory and Methods*
 1972– Refereeing for statistical, biomedical, epidemiologic and environmental journals

Professional Organization Administration

2016-2017 Search Committee, *Biometrics* Executive Editor
 2011-2013 Chair-elect, chair, past chair, AAAS Section-U, Statistics
 2010-2012 Local Organizing Committee, IBS International Biometric Conference, Kobe Japan, 2012
 2009-2015 IBS Editorial Advisory Committee
 2009-2010 Chair, International Biometric Society, Council of Presidents
 2009-2010 IBS/ENAR Nominations Committee
 2008 Outgoing vice-President, International Biometric Society
 2007 Organizing & Scientific Programme Committee,
 East Asia Regional Biometric Conference, Tokyo
 2006-2007 President, International Biometric Society
 2005-2006 IBS/ENAR Nominations Committee
 2005 Incoming vice-President, International Biometric Society
 2004 Executive Committee, ASA Section on Bayesian Statistical Science
 2002-2003 Chair-elect/chair, ASA Section on Bayesian Statistical Science
 2002 Member, ENAR Educational Advisory Committee
 2002 Associate Director, Search Committee, National Institute of Statistical Sciences
 2002 Chair, Nomination Committee, National Institute of Statistical Sciences
 2000-2001 Program Committee, Year 2001 International Statistical Institute Conference
 2001-2002 Program Committee, Year 2002 Intl. Epidemiologic Association Conference
 2001 ASA-IMS Task Force to select statistical reviewers for Science
 2001 ENAR management review
 2000-2001 ENAR Nominating Committee
 2000-2005 Member, ASA Scientific and Public Affairs Advisory Committee
 2000-2002 Executive Committee, National Institute of Statistical Sciences
 1999-2000 Program Committee, Year 2000 International Biometric Conference
 1998-2000 ENAR Liaison to the ASA
 1998 ENAR management review
 1997-2002 Trustee, National Institute of Statistical Sciences (NISS)
 1997-1989 Chair, Fellow Selection Committee, International Biometric Society
 1997 ASA search Committee for new *Chance* editor
 1994-1997 Council, International Biometric Society
 1993-1996 IMS, Committee on Scientific Policy
 1993-1996 AAAS Electorate Nominating Committee
 1993 Chair, ASA Editor search Committee, *JASA Applications and Case Studies*
 1993 Chair, ASA Sub-committee to Evaluate Health Science Journal Options
 1993 Steering Committee, Research Synthesis: Social Science Informing Public Policy
 1992 Nominating Committee, JASA book review editor
 1992 President, Biometric Society, ENAR
 1991-1993 Executive Committee, Biometric Society ENAR
 1991-1992 Committee of Presidents of Statistical Societies
 1991 Advisory Board, NISS
 1988 Program Chair, Intl. Biometrics Society-ENAR Spring Meeting, Boston MA
 1988 Regional Committee, Biometric Society ENAR
 1978-1978 Co-program chair, Intl. Biometrics Society-ENAR Spring Meeting, Chapel Hill, NC
 1976-1976 Local arrangements Committee 9th Intl. Biometric Conference, Boston, MA
 1976-1986 Program Committee, Boston Chapter, ASA

Advisory

2020 Chair, Visiting Panel, Joint Program in Survey Methodology, U Maryland & Michigan

2019 Review coordinator, NAS workshop: Using Models to Estimate Hog and Pig Inventories

2019 Review of the Biostatistics Department, University of Miami

2018 Member of the tri-society (American Statistical Assn., American Sociological Assn., Population Assn. of America) group that prepared amicus briefs supporting the lawsuits in, New York, California, and the Supreme Court to block including a citizenship question on the 2020 census

2018 National Academies; National Investment Modeling expert Panel

2017– Advisory Committee, U of Michigan Institute for Social Research, Educational Program on Responsive Survey Design for Efficient Survey Data Collection

2017– Chair, NIDDK DSMB for the ARMMS-T2D study (Alliance of Randomized Trials of Medicine vs Metabolic Surgery in Type 2 Diabetes)

2017–2020 DSMB, NHLBI; Junctional AV Ablation for Permanent Atrial Fibrillation in Patients Undergoing Cardiac Resynchronization Therapy

2016– DSMB, Bristol-Myers Squibb; gastric, lung, and renal cancer trials

2016– DSMB, Minnesota Hearth Health Program–Aspirin Study

2016 Panelist, FDA workshop on, Facilitating Antibacterial Drug Development for Patients with Unmet Need and Developing Antibacterial Drugs That Target a Single Species

2016– International Advisory Board, Interuniversity Institute of Biostatistics and Statistical Bioinformatics Universities of Hasselt & Leuven, Belgium

2016 Chair, external advisory board of the Department of Public Health and Primary Care, Leuven, Belgium

2016 NAS/CNSTAT Expert meetings on Improving the Relevance of Federal Statistics

2016 NIDDK Expert Evaluation Committee of the Alliance of Randomized Trials of Medicine versus Metabolic Surgery in Type 2 Diabetes (ARMMS-T2D) study

2015– Technical Advisory Group, Developing Excellence in Leadership Training and Science Training, Sub-Saharan Africa Consortium for Advanced Biostatistics Training

2015–2016 Advisory Board, Center for Survey Statistics and Methodology, Iowa State U

2015–2016 PCORI/CTAP Post–Award Expert Advisory Subcommittee

2015–2018 CMS Technical Expert Panel: Hospital Inpatient and Outpatient Process and Structural Measure Development and Maintenance

2012– External Evaluation Committee, Type 1 Diabetes TrialNet

2011– Scientific Advisory Board, NIEHS Gulf Long-term Follow-Up (GuLF) Study

1985– Report Review, The National Academies

1975– Proposal review, NSF, NIH and other funding agencies

2015 Health Effects Institute (HEI) ad hoc Review Panel

2015 Clinical Trial Review Panel, NIH/NIDCD, Deafness and Communication Disorders for trial design and analysis in anti-bacterial drug development

2014–2015 DSMB, Flexibility in Duty Hour Requirements for Surgical Training (FIRST) trial

2014 PCORI Methodology Consultation Review Panel

2014–2015 NIA-sponsored NAS meetings on observational studies and causal inference

2013–2014 Panel on Hospital Performance Measure Testing, Mathematica

2012–2014 DSMB, Bangladesh Complementary Food Supplementation Trial

2012 Review of the University of Wisconsin, Biostatistics Training Grant Program

2011–2013 DSMB, Triple re-uptake inhibitor for the treatment of major depressive disorder (BMS)

2009–2013 External Expert Panel for the Hemodialysis Fistula Maturation Cohort Study

2007–2012 Board of Scientific Counselors, NIH-National Institute of Environmental Health Sciences

2006–2011 Scientific Advisory Committee, EPA/Harvard Center on Ambient Particle Health Effects

2004–2012 DSMB, Right Ventricular Pacing Study (Medtronic)

Advisory (continued)

- 2011 Chair, Committee of Presidents of Statistical Societies, Committee on Methods for Hospital-specific estimates of quality of care
- 2011 Census Bureau, "Summer at Census" visiting scholar
- 2011 *Ad hoc*, Tenure Review Committee, Columbia University
- 2010–2011 ASA/NISS Panel on ranking graduate programs
- 2010–2011 EPA Science Advisory Board Panel to review draft lead dust technical analyses
- 2010 Nat. Inst. Statist. Sci., Workshop on Assessing the Quality of Graduate Programs
- 2010 Chair, Steering Committee, National Academies workshop on Facilitating Innovation in the Federal Statistical System
- 2006–2010 DSMB, MK-0518 HIV Integrase Phase III Program (Merck)
- 2009 Working Group, the role of the NIH Biostatistical Methods and Research Design study section
- 2009 Proposal review, International Science and Technology Center in the Ukraine
- 2008 NAS Review Coordinator, "Phthalates and Cumulative Risk Assessment: The Tasks Ahead"
- 2008 Consultant, U of Wisconsin chair search, Dept. of Biostatistics and Medical Informatics
- 2007–2009 DSMB, VA Trial of Long-Acting Injectable Risperidone in the Treatment of Schizophrenia
- 2007 Review Panel, Ixabepilone for treatment of metastatic breast cancer (Bristol, Myers, Squibb)
- 2006–2009 NAS Standing Committee on Risk Analysis Issues and Reviews
- 2006–2008 DSMB, Preventing Pregnancy Malaria: Mother Infant outcomes study (NIH-NIAID)
- 2005–2008 NAS Committee on Applied and Theoretical Statistics
- 2005 Selection Committee, JASA Applications and Coordinating Editor for 2007-9
- 2004–2006 NAS Committee to Review the Effects of Changes in EPA's New Source Review Programs for Stationary Sources of Air Pollutants
- 2004 *Ad hoc* consultant, Board of Scientific Councilors review of the NIEHS Biostatistics Branch
- 2004 NIH Clinical Infectious Diseases and Microbiology, Research & Field Studies Special Study Section
- 2003–2004 Advisor, masters program in Biometrics, UMDNJ
- 2003–2004 Drinking Water Committee, EPA Science Advisory Board
- 2003 Input to IOM report, "Measuring What Matters: Allocation, Planning, and Quality Assessment for the Ryan White CARE Act"
- 2003 Review of the MS in Biostatistics, U of Medicine & Dentistry of NJ, SPH
- 2003 Committee to review Biostatistics at the U of Washington
- 2002–2004 NAS, Committee on use of third party toxicity research with human participants
- 2002–2003 Panel to review guidelines for thrombolysis treatment of acute ischemic stroke
- 2002 Chair, Committee to review Biostatistics at Emory U
- 2001–2008 DSMB, Dialysis Access Consortium (NIH-NIDDK)
- 2001–2002 NIH ad hoc group to promote increased funding for training in Biostatistics
- 2001 Committee to propose a statistics editor for Science magazine
- 2001 Advisory Committee, Program in Environmental Statistics, Biostatistics, Harvard SPH
- 2001 Proposal reviewer, VA studies on Persian Gulf Illness
- 2000–2005 Health Effects Institute, Report Review Committee
- 2000–2004 Advisory Committee, Harvard Cardiac Vulnerability Related to Particulate Matter Project
- 2000–2004 Scientific Advisory Committee, EPA/Harvard Center on Ambient Particle Health Effects
- 2000–2003 Advisory Board, Center for Innovation in Clinical Research, M.D. Anderson CC
- 2000–2003 Steering Committee, United States Renal Data System
- 2000–2003 Diesel Emissions Project Committee, Health Effects Institute
- 2000–2002 Chair, NAS panel on Formula Allocation of Federal and State Program Funds
- 2000 Panelist, NIH Consensus Conference on Adjuvant Therapy for Breast Cancer
- 1999 Chair, Review Committee, Dept. of Social and Preventive Medicine, SUNY Buffalo

Advisory (continued)

- 1998–2004 Chair, DSMB, Chemoprevention of Skin Cancers with DFMO Clinical Trial
- 1998 NIH Special Emphasis Panel Proposal Review
- 1997–1999 Oversight Committee, HEI, National Morbidity and Mortality Air Pollution Study
- 1997 Chair, NIAID proposal review panel, Statistical Center for the Women's Interagency Health Study
- 1997 Advisory panel, U Chicago Dept. OB/GYN, issues in stopping a clinical trial
- 1997–2003 NAS, Committee on National Statistics
- 1996–2003 Advisory Board, Institute of Medicine (IOM), Medical Follow-up Agency
- 1996–1999 NAS, Panel on Estimates of Poverty for Small Geographic Areas
- 1996 Organizational Review, U of Chicago, Department of Health Studies
- 1995 NCI site visit, Fred Hutchinson Cancer Research Center, Seattle Washington
- 1995 UCLA Visiting Committee on reorganizing statistics at the university
- 1995 Visiting Committee, Cleveland Clinic Dept. of Epidemiology and Biostatistics
- 1994–1996 IOM/MFUA Committee to Review the Health Consequences of Service during the Persian Gulf War
- 1994–1995 Reviewer, EPA Particulate Matter and Mortality Criterion Document
- 1993–1997 DSMB, Long-term outcome of Obesity Treatment in Minority Women Study
- 1991 Reviewer, NIAID/DAIDS, ACTG re-competition
- 1988–1990 AHCPH Health Care Technology Study Section
- 1987–1993 Advisory Committee for Research Synthesis, The Russell Sage Foundation
- 1984–1988 EPA Health Effects Scientific Review Panel
- 1981–1983 Advisory Committee, Kidney Transplant and Histocompatibility Study
- 1975–1983 Site visitor, National Cancer Institute

UNIVERSITY SERVICE

Johns Hopkins University (Bloomberg School of Public Health unless otherwise indicated)

- 2019–2020 Proposal review, Support for Creative Integrated Basic and Applied Research
- 2019–2020 Biostatistics Faculty Search Committee
- 2015–2016 Biostatistics Faculty Search Committee
- 2014– Committee member, Ross/Royall Fund for Population Inference in Public Health
- 2011–2012 Chair, Biostatistics Faculty Search Committee
- 2010–2011 Search Committee for Chair of Environmental Health Sciences
- 2009–2010 Committee to review the Department of Environmental Health Sciences
- 2008–2012 SPH Committee on Academic Standards
- 2008–2009 HopkinsOne, University-wide Faculty Advisory Committee
- 2008–2009 Medical School Investigative Committee
- 2008–2009 Chair, Biostatistics Faculty Search Committee
- 2007–2008 Strategic Planning Steering Committee
- 2006–2011 Advisory Committee, Environmental Health Sciences, NIEHS Training Program
- 2005–2008 SPH Advisory Board
- 2005–2008 Faculty Senate: President-elect, President, past President
- 2004–2006 Sommer Scholar selection Committee
- 2004–2005 Chair, Faculty Grievance Committee
- 2003–2008 Committee on Appointments and Promotions

2003–2005 Faculty Senator
 2003–2004 Planning Committee, FDA/Johns Hopkins workshop, “Can Bayesian approaches to studying new treatments improve regulatory decision-making?”
 2002–2012 Steering Committee, Malaria Research Institute
 2002–2004 FDA/Hopkins Liaison Development
 2002–2004 Biostatistics Faculty Search Screening Committee
 2002–2003 Co-chair, Biostatistics seminar Committee

University of Minnesota School of Public Health

2000 Dean Search Committee, School of Public Health
 1999–2000 Ethics Advisory Committee
 1998–1999 President’s Distinguished Faculty Mentors Program
 1997–1998 Academic Health Center faculty research development grants review Committee
 1996–1997 Search Committee, Health Sciences Chief Information Officer
 1994–1998 SPH Diversity Committee
 1994–1995 SPH Diversity Committee, Co-chair
 1994–1995 Chair, MPH Major in Biostatistics
 1994 Search Committee, Director, Cancer Center Registry
 1994 Ad Hoc Committee to investigate misconduct
 1993–1996 Faculty Advisor, Sailing Club
 1992–1994 Chair, Search Committee, Head, Center for Environmental Health Policy, SPH
 1992 Chair, Biostatistician Search Committee, General Clinical Research Center
 1991 Search Committee, Population Sciences faculty, Humphrey Institute
 1990–1999 SPH Space Committee
 1990–1990 Search Committee, SPH Dean
 1989–1990 Chair, Search Committee, Head of Epidemiology, SPH
 1988–1993 Academic Advisory Committee, Center for Biomedical Ethics (chair, 1988–1990)
 1987–2000 Advisory Committee, General Clinical Research Center
 1987–1999 SPH Policy Council

Harvard School of Public Health

1980–1984 Qualifying examination Committee
 1980–1981 Institutional Review Board

COMMUNITY SERVICE

2018– Docent, Chesapeake Bay Maritime Museum
 2017– Martingham Architecture Review Committee
 1999–2000 Treasurer, L Harriet Yacht Club
 1995 Faculty Member, National Breast Cancer Coalition, Project LEAD
 1992–1995 Institutional Review Board, Allina Health System, Minneapolis, MN
 1984 Co-chair, School Enrollment Projection & Reorganization Committee, Lexington MA
 1975–1978 Faculty, Norfolk Prison Education Program, Norfolk MA

EDUCATIONAL ACTIVITIES

Courses: Probability theory, Statistical theory, Sequential analysis, Analysis of longitudinal data, Hierarchical models, Bayesian methods, Survey methods, Multivariate analysis, Discrete data, Robust methods, Screening and bioassay, Exploratory data analysis.

Research Advising: Principal or co-advisor for Biostatistics doctoral and masters students. Member of doctoral and masters Committees in Statistics, Biostatistics, Epidemiology, Environmental Health, Health Services, and Microbiology.

PUBLICATIONS

(Peer reviewed journal articles & books, Software, Peer reviewed journal discussions, Monographs, Book chapters, Proceedings, Book reviews, Letters & Columns)

Peer reviewed journal articles & books

1. Flehinger BJ, Louis TA (1971). Sequential treatment allocation in clinical trials. *Biometrika*, 58: 419–426.
2. Flehinger BJ, Louis TA (1972). Sequential medical trials with data-dependent treatment allocation. *Proc. Sixth Berkeley Symposium*, 4: 43–52.
3. Flehinger BJ, Louis TA, Robbins H, Singer B (1972). Reducing the number of inferior treatments in clinical trials. *Proc. Nat. Acad. of Sci. US*, 69: 2993–94.
4. Hsi BP, Louis TA (1975). A modified play-the-winner rule for sequential trials. *J. Am. Statist. Assoc.*, 70: 644–647.
5. Louis TA (1975). Optimal allocation in sequential tests comparing the means of two Gaussian populations. *Biometrika*, 62: 359–369.
6. Louis TA (1977). Sequential allocation in clinical trials comparing two exponential survival curves. *Biometrics*, 33: 627–634.
7. Albert A, Gertman P, Louis TA (1978). Screening for the early detection of cancer I: The temporal natural history of a progressive disease state. *Mathematical Biosciences*, 40: 1–59.
8. Albert A, German P, Louis TA, Liu S (1978). Screening for the early detection of cancer II: The impact of screening on the natural history of disease. *Mathematical Biosciences*, 40: 61–109.
9. Louis TA, Albert A, Heghinian S (1978). Screening for the early detection of cancer III: Estimation of disease natural history. *Mathematical Biosciences*, 40: 111–144.
10. Louis TA (1981). Confidence intervals for a binomial parameter after observing no successes. *The American Statistician*, 35: 154.
11. Louis TA (1981). Nonparametric analysis of an accelerated failure time model. *Biometrika*, 68: 381–390.
12. Russell R et al. (1981). Unstable angina pectoris national cooperative study group to compare medical and surgical therapy IV: Results in patients with left anterior descending disease. *Am. J. Cardiology*, 48: 517–524.
13. Laird NM, Louis TA (1982). Approximate posterior distributions for incomplete data problems. *J. Roy. Statist. Soc. Ser. B*, 44: 190–200.
14. Louis TA (1982). Finding the observed information using the EM algorithm. *J. Roy. Statist. Soc. Ser. B*, 44: 226–233.
15. Louis TA, Mosteller FM, McPeck B (1982). Timely topics in statistical methods for clinical trials. *Ann. Rev. Biophys. & Bioeng.*, 11: 81–104.
16. Shapiro SH and Louis TA, eds. (1983). *Clinical Trials: Issues and Approaches*. Marcel Dekker, New York.
17. Louis TA, Shapiro SH (1983). Critical issues in the conduct and interpretation of clinical trials. *Ann. Rev. Public Health*, 4: 25–46.
18. Eisen EA, Wegman DE, Louis TA (1983). Effects of selection in a prospective study of forced expiratory volume in Vermont granite workers. *Am. Rev. Respir. Disease*, 128: 587–591.
19. Lavori P, Louis TA, Bailar JC, Polansky M (1983). Designs for clinical experiments: Parallel comparisons of treatment. *N. Engl. J. Med.*, 309: 1291–1298.
20. Louis TA (1983). Statistics in laboratory studies. *Lab Animal*, 12: 17–25.
21. Ware JH, Louis TA (1983). Statistical problems in environmental research. *Can. J. Statist.*, 11: 51–70.
22. Bailar JC, Louis TA, Lavori P, Polansky M (1984). Designs for clinical experiments: Studies without internal controls. *N. Engl. J. Med.*, 311: 156–162.

23. Eisen EA, Smith TA, Wegman DE, Louis TA, Froines J (1984). Estimation of long-term dust exposures in the Vermont granite sheds. *J. Am. Indust. Hygiene Assoc.*, 45: 89–94.
24. Louis TA (1984). Estimating a population of parameter values using Bayes and empirical Bayes methods. *J. Am. Statist. Assoc.*, 78: 393–398.
25. Louis TA, Lavori P, Bailar JC, Polansky M (1984). Crossover and self-controlled designs in clinical research. *N. Engl. J. Med.*, 310: 24–31.
26. Moses L, Louis TA (1984). Statistical consulting in clinical research: The two-way street. *Statist. in Med.*, 3: 1–5.
27. Bailar JC, Louis TA, Lavori P, Polansky M (1984). A classification for biomedical research reports. *N. Engl. J. Med.*, 311: 1482–1487.
28. Louis TA, Fineberg HV, Mosteller F (1985). Findings for public health from meta-analyses. *Ann. Rev. Pub. Health*, 6: 1–20.
29. Palmer RJ, Louis TA, Hsu LN, Peterson HF, Rothrock JK, Strain R, Thompson M, Wright EA (1985). A randomized controlled trial of quality assurance in sixteen ambulatory care practices. *Medical Care*, 23: 751–770.
30. Louis TA, Bouffieux C, Tazaki H, Acosta-Otero A, Khoury S, Kopp J, Mazeman E, Obata K, Tagnon H, Wittes RE (1986). Policy on monitoring and reporting results. *Prog. Clin. Biol. Res.*, 221: 33–48.
31. Louis TA, Robins J, Dockery DW, Spiro R, Ware JH (1986). Explaining discrepancies between longitudinal and cross-sectional models. *J. Chron. Diseases*, 39: 831–839.
32. Laird NM, Louis TA (1987). Empirical Bayes confidence intervals based on bootstrap samples (with discussion). *J. Am. Statist. Assoc.*, 82: 739–757.
33. Louis TA (1988). General methods for analyzing repeated measures. *Statistics in Medicine*, 7: 29–45.
34. DeGruttola V, Ware JH, Louis TA (1987). Influence analysis on generalized least squares estimators. *J. Am. Statist. Assoc.*, 82: 911–917.
35. Knuiman MW, Laird NM, Louis TA (1987). Inter-laboratory variability in Ames assay results. *Mutation Research*, 180: 171–182.
36. Dockery DW, Speizer FF, Ferris BG Jr., Ware JH, Louis TA, Spiro A III (1988). Cumulative and reversible effects of lifetime smoking on simple tests of lung function in adults. *Am. Rev. Respir. Disease*, 137: 286–292.
37. Lagakos SW, Louis TA (1988). Use of tumor lethality to interpret carcinogenicity experiments lacking information on cause of death. *J. Roy. Statist. Soc. Ser. C*, 37: 169–179.
38. Manu P, Louis TA, Lane TJ, Gottlieb L, Engel P, Rippey RM (1988). Unfavorable outcomes of drug therapy: Subjective probability versus confidence intervals. *J. Clin. Pharm. and Therapeutics*, 13: 213–217.
39. Louis TA (1989). Analysis of a random sample of two-year carcinogen bioassays from the NCI data-base. *Fund. and Appl. Toxicology*, 12: 222–231.
40. Laird NM, Louis TA (1989). Bayes and empirical Bayes ranking methods. *J. Educational Statistics*, 14: 29–46.
41. Laird NM, Louis TA (1989). Empirical Bayes confidence intervals for a series of related experiments. *Biometrics*, 45: 481–495.
42. Berlin JA, Begg CB, Louis TA (1989). An assessment of publication bias using a sample of published clinical trials. *J. Am. Statist. Assoc.*, 84: 381–392.
43. Louis TA, Bailey JK (1990). Controlling error rates using prior information and marginal totals to select tumor sites. *J. Statistical Planning & Inference*, 24: 297–316.
44. Stryker WS, Stampfer MJ, Stein EA, Kaplan L, Louis TA, Sober A, Willett WC (1990). Diet, plasma levels of beta carotene and alpha tocopherol and risk of malignant melanoma. *Am. J. Epidemiology*, 131: 597–611.

45. Hall JA, Palmer RH, Orav EJ, Hargraves JL, Wright EA, Louis TA (1990). Performance quality, gender, and professional role: A study of physicians and non-physicians in 16 ambulatory care practices. *Medical Care*, 28: 489–501.
46. Ware JH, Dockery DW, Louis TA, Xu X, Ferris BG, Speizer FE (1990). Longitudinal and cross-sectional estimates of pulmonary function decline in never-smoking adults. *Am. J. Epidemiology*, 132: 685–700.
47. Laird NM, Louis TA (1991). Smoothing the non-parametric estimate of a prior distribution by roughening: An empirical study. *Comput. Statist. and Data Analysis*, 12: 27–38.
48. Louis TA (1991). Using empirical Bayes methods in Biopharmaceutical Research (with discussion). *Statistics in Medicine*, 10: 811–829.
49. Louis TA (1991). Assessing, accommodating, and interpreting the influences of heterogeneity. *Environmental Health Perspectives*, 90: 215–222.
50. Orav EJ, Louis TA, Palmer RH (1991). Variance components and their implications for statistical information in medical data. *Statistics in Medicine*, 10: 599–616.
51. Boulton C, Kane RL, Louis TA, Ibrahim JG (1991). Forecasting the number of future disabled elderly using Markovian and mathematical models. *J. Clinical Epidemiol.*, 44: 973–98.
52. Anderson JE, Louis TA, Holm NV (1992). Time dependent association measures for bivariate survival distributions. *J. Am. Statist. Assoc.*, 87: 641–650.
53. Butler SM, Louis TA (1992). Random effects models with non-parametric priors. *Statistics in Medicine*, 11: 1981–2000.
54. Mangione TW, Fowler FJ Jr., Louis TA (1992). Question characteristics and interviewer effects. *J. Official Statistics*, 8: 293–307.
55. Cook TD, Cooper H, Cordray DS, Hartmann H, Hedges LV, Light RJ, Louis TA, Mosteller F, (eds.) (1992). *Meta-analysis for explanation: A casebook*. Russell Sage Foundation, New York.
56. Bostick RM, Potter JD, Fosdick L, Lampe J, Wood JR, Ganz MD, Louis TA, Grambsch P, Grandits G (1993). Calcium and colorectal epithelial cell proliferation: Results of a randomized double-blind placebo controlled clinical trial. *J. Nat'l. Cancer Inst.*, 85: 132-141.
57. Chaloner K, Church T, Louis TA, Matts JP (1993). Graphical elicitation of a prior distribution for a clinical trial. *The Statistician*, 42: 341-353.
58. Carlin BP, Chaloner K, Church T, Louis TA, Matts JP (1993). Bayesian approaches for monitoring clinical trials, with an application to toxoplasmic encephalitis prophylaxis. *The Statistician*, 42: 355-367.
59. Louis TA (1993). Meta-analysis of Clinical Studies: The whole is greater than the sum of its parts. *Transfusion*, 33: 698-700.
60. Boulton C, Kane RL, Louis TA, Boulton L, McCarey D (1994). Chronic conditions that lead to functional limitation in the elderly. *J. of Gerontology: Medical Sciences*, 49: M28-M36.
61. Le C, Grambsch PM, Louis TA (1994). Association between survival time and ordinal covariates. *Biometrics*, 50: 213-219.
62. Devine OJ, Louis TA (1994). A constrained empirical Bayes estimator for incidence rates in areas with small populations. *Statistics. in Med.*, 13: 1119-1133.
63. Grambsch P., Louis TA, Bostick R, Grandits G, Fosdick L, Darif M, Potter J (1994). Statistical Analysis of Proliferative Index Data in Clinical Trials. *Statistics in Medicine*, 13:1619-1634.
64. Devine OJ, Halloran ME, Louis TA (1994). Empirical Bayes Methods for stabilizing incidence rates prior to mapping. *Epidemiology*, 5: 622-630.
65. DeMets DL, Anbar D, Fairweather W, Louis TA, O'Neill RT (1994). Training the next generation of Biostatisticians. *The American Statistician*, 48: 280-284.

66. Melnick S, Sherer R, Louis TA, Hillman D, Rodrigues E, Lackman C, Capps L, Brown L, Carlyn M, Vermund S, Korvick J, Deyton B (1994). Survival and disease progression according to gender of patients with HIV infection: The Terry Beinr Community Programs for Clinical Research on AIDS. *J. Am. Medical Assoc.*, 272: 1915-1921.
67. Devine OJ, Louis TA, Halloran ME (1994). Empirical Bayes estimators for spatially correlated incidence rates. *Environmetrics*, 5: 381-398.
68. Kasiske BL, Ma JZ, Kalil RSN, Louis TA (1995). Effects of anti-hypertensive therapy on serum lipids: a meta-analysis. *Ann. Int. Med.*, 122: 133-141.
69. Shih JH, Louis TA (1995). Assessing gamma frailty models for clustered failure time data. *Lifetime Data Analysis*, 1: 205-220.
70. Maki DD, Ma JZ, Louis TA, Kasiske BL (1995). Long-term effects of Antihypertensive Agents on Proteinuria and Renal Function. *Archives of Int. Med.*, 155: 1073-1080.
71. Grambsch P, Randall BL, Bostick RM, Potter JD, Louis TA (1995). Modeling the Labeling Index Distribution: An Application of Functional Data Analysis. *J. Am. Statist. Assoc.*, 90: 813-822.
72. Shih J, Louis TA (1995). Inference on the association parameter in copula models for bivariate survival data. *Biometrics*, 51: 1384-1399.
73. Massy ZA, Ma JZ, Louis TA, Kasiske BL (1995). Lipid-lowering therapy in patients with renal disease. *Kidney International*, 48: 188-198.
74. Bostick RM, Fosdick L, Wood JR, Grambsch P, Grandits GA, Lillemoe TJ, Louis TA, Potter JD. (1995). Calcium and Colorectal Epithelial Cell Proliferation in Sporadic Adenoma Patients: a Randomized, Placebo-Controlled Clinical Trial. *J. Natl. Cancer Inst.*, 87: 1307- 1315.
75. Anderson JE, Louis TA (1995). Survival analysis using a scale change random effects model. *J. Am. Statist. Assoc.*, 90: 669-679.
76. Eisen EA, Wegman DH, Louis TA, Smith TJ, Peters JM (1995). Healthy Worker Effect in a Longitudinal Study of One-Second Forced Expiratory Volume (FEV1) and Chronic Exposure to Granite Dust. *Int. J Epi.*, 24: 1154-1162.
77. Kasiske BL, Ma, JZ, Roberto SN, Kalil MD, Louis TA (1995). Effects of Antihypertensive Therapy on Serum Lipids. *Ann. Intern. Med.*, 122: 133-141.
78. Kasiske BL, Ma JZ, Louis TA, Swan SS (1995). Long-term effects of reduced renal mass in humans. *Kidney Intl.*, 48: 814-819.
79. Carlin BP, Louis TA (1996). *Bayes and empirical Bayes Methods for Data Analysis*. Chapman & Hall/CRC Press, Boca Raton, FL.
80. Devine OJ, Louis TA, Halloran ME (1996). Identifying areas with elevated incidence rates using empirical Bayes estimators. *Geographical Analysis*, 28: 187-199.
81. Potter JD, Bostick RM, Grandits GA, Fosdick L, Elmer P, Wood J, Grambsch P, Louis TA (1996). Hormone replacement therapy is associated with lower risk of adenomatous polyps of the large bowel: the Minnesota CPRU Case-control Study. *Cancer Epidemiology, Biomarkers & Prevention*, 5: 779-784.
82. Palmer RH, Louis TA, Peterson HF, Rothrock JK, Strain R, Wright EA (1996). What Makes Quality Assurance Effective? Results from a randomized controlled trial in 16 ambulatory care group practices. *Medical Care*, 34, #9: SS29-SS39.
83. Palmer RH, Hargraves JL, Orav EJ, Wright EA, Louis TA (1996). Leadership for Quality improvement in group practices. *Medical Care*, 34, #9: SS40-SS51.
84. Palmer RH, Wright EA, Orav EJ, Hargraves JL, Louis TA (1996). Consistency in performance among primary care practitioners. *Medical Care*, 34, #9: SS52-SS66.
85. Louis TA (1996). Research Synthesis: Applications to drug regulatory policy and health care policy. *Clinical Research and Regulatory Affairs*, 13: 5-11.

86. Shih J, Louis TA (1996). Tests of independence for Bivariate Survival Data. *Biometrics*, 52: 1440-1449.
87. Zelterman D, Le CT, Louis TA (1996). Bootstrap techniques for proportional hazards models with censored observations. *Statistics and Computing*, 6: 191-199.
88. Anderson JE, Louis TA (1996). Generating Pseudo-random variables from mixture models by exemplary sampling. *J. Statistical Computation & Simulation*, 54: 45-53.
89. Butler SM, Louis TA (1997). Consistency of maximum likelihood estimators in random effects models for longitudinal binary measures with non-parametric priors. *Annals of Statistics*, 25: 351-377.
90. Waller LA, Louis TA, Carlin BP (1997). Bayes methods for combining disease and exposure data in assessing environmental justice. *Environmental and Ecological Statistics*, 4: 267-281.
91. Bostick RM, Fosdick L, Grandits GA, Lillemoe TJ, Wood JR, Grambsch P, Louis TA, Potter JD (1997). Colorectal epithelial cell proliferative kinetics and risk factors for colon cancer in sporadic adenoma patients. *Cancer Epidemiology, Biomarkers and Prevention*, 6: 1011- 1019.
92. Shen W, Louis TA (1998). Triple-goal estimates in two-stage hierarchical models. *J. Royal Statistical Society, Ser. B*, 60: 455-471.
93. Chan I, Hillman D, Louis TA (1998). Treatment comparisons with screenable endpoints. *Computational Statistics & Data Analysis*, 27: 401-419.
94. Brosgart C, Louis TA, Hillman D, Craig C, Alston B, Fisher E, Abrams DI, Luskin-Hawk R, Sampson J, Ward DJ, Thompson MA, Torres R (1998). A randomized, placebo-controlled trial of the safety and efficacy of Oral Ganciclovir for prophylaxis of Cytomegalovirus disease in HIV-infected individuals. *AIDS*, 12: 269-277.
95. Huang Y, Louis TA (1998). Nonparametric Estimation for the Joint Distribution of Survival Time and Mark Variables. *Biometrika*, 85: 785-798.
96. Kasiske BL, Lakatua A, Ma JZ, Louis TA (1998). A Meta-Analysis of the Effects of Dietary Protein Restriction on the Rate of Decline in Renal Function. *Am. J. Kidney Diseases*, 31:954-961.
97. Waller LA, Louis TA, Carlin BP (1999). Environmental justice and statistical summaries of differences in exposure distributions. *J. Exposure Analysis and Environmental Epidemiology*, 9: 56-65.
98. Potter JD, Bigler J, Fosdick L, Bostick RM, Kampman E, Chen C, Louis TA, Grambsch P (1999). Colorectal Adenomatous and hyperplastic polyps: Smoking and N-Acetyltransferase 2 polymorphisms. *Cancer Epidemiology, Biomarkers & Prevention*, 8: 69-75.
99. Louis TA, Shen W (1999). Innovations in Bayes and empirical Bayes methods: Estimating parameters, populations and ranks. *Statistics in Medicine*, 18: 2493-2505.
100. Pan W, Louis TA (1999). Two semi-parametric empirical Bayes estimators. *Computational Statistics and Data Analysis*, 30: 185-196.
101. Huang Y, Louis TA (1999). Expressing estimators of expected quality adjusted survival as functions of Nelson-Aalen estimators. *Lifetime Data Analysis*, 5: 199-212.
102. Shen W, Louis TA (1999). Empirical Bayes Estimation via the Smoothing by Roughening Approach. *J. Computational & Graphical Statistics*, 8: 800-823.
103. Carlin BP, Louis TA (2000). *Bayes and empirical Bayes Methods for Data Analysis*, 2nd ed. Chapman & Hall/CRC Press, Boca Raton, FL.
104. Pan W, Louis TA (2000). A linear Mixed Effects Model for Multivariate Censored Data. *Biometrics*, 56: 160-166.
105. Bostick RM, Fosdick MS, Grandits GA, Grambsch P, Gross M, Louis TA (2000). Effect of calcium supplementation on serum cholesterol and blood pressure; A Randomized, Double-Blind, Placebo-Controlled, Clinical Trial (with discussion). *Archives of Family Medicine*, 9: 31-39.

106. Shen W, Louis TA (2000). Triple-Goal estimates for Disease Mapping. *Statistics in Medicine*, 19: 2295-2308.
107. Pan W, Louis TA, Connett JE (2000). A note on Marginal Linear Regression with Correlated response data. *The American Statistician*, 54: 191-195.
108. Carlin B. P., Louis T. A. (2000). Empirical Bayes: Past, Present and Future. *J. Am. Statist. Assoc.*, 95: 1286-1289.
109. Kasiske BL, Harini Chakkerla H, Louis TA, Ma JZ (2000). A Meta-Analysis of Immunosuppression Withdrawal Trials in Renal Transplantation. *J. Am. Society of Nephrology*, 11: 1910-1917.
110. Xue JL, Ma JZ, Louis TA, Collins AJ (2001). Forecasting the number of patients with endstage renal disease in the United States to year 2010. *J. Am. Soc. Nephrology*, 12: 2753-2758.
111. Eifel P, Axelson JA, Costa J, Crowley J, Curran WJ Jr, Deshler A, Fulton S, Hendricks CB, Kemeny M, Kornblith AB, Louis TA, Markman M, Mayer R, Roter D. (2001). National Institutes of Health Consensus Development Conference Statement: adjuvant therapy for breast cancer, November 1-3, 2000. *J. Natl. Cancer Inst.*, 93: 979-89.
112. Lyberg L, Louis TA, Jabine TJ, Mackie, C (2002). Introduction to the Special Issue on Formula Allocations. *J. Official Statistics*, 18(3).
113. Huppler-Hullsiek K, Louis TA (2002). Propensity Score Modeling Strategies for the Causal Analysis of Observational Data. *Biostatistics*, 2: 179-193.
114. Marquis MS, Louis TA (2002). On using Sample Selection Methods in Estimating the Price Elasticity of Firms' Demand for Health Insurance. *J. Health Economics*, 21:137-145.
115. Nelson K, Garcia RE, Brown J, Mangione CM, Louis TA, Keeler E, Cretin S (2002). Do recruitment procedures affect participation rates in research? Data from the Improving Chronic Illness Care Evaluation. *Medical Care*, 40: 283-288.
116. Smith-Warner S, Elmer P, Grandits G, Randall B, Fosdick L, Grambsch P, Louis TA, Bostick R, Wood J, Potter J (2002). Fruits, vegetables, and adenomatous polyps: The University of Minnesota Cancer Prevention Research Unit Case-Control Study. *Am. J. Epi.*, 155: 1104-1113.
117. Lockwood JR, Louis TA, McCaffrey D (2002). Uncertainty in rank estimation: Implications for Value Added Modeling Accountability Systems. *J. Educational & Behavioral Statistics*, 27: 255-270.
118. Hillman D, Louis TA (2003). DSMB Case Study: Decision making when a similar clinical trial is stopped early. *Controlled Clinical Trials*, 24: 85-91.
119. Bozzette SA, Ake CF, Tam HK, Chang S, Louis TA (2003). Cardiovascular and cerebrovascular events in patients treated for human immunodeficiency virus infection. *New Engl. J. Med.*, 348: 702-710. 1. PMID: 12594314.
120. Dobbin K, Louis TA (2003). Stochastic Permutation Models for Compliance-adjusted Estimation of a Dose-response Curve. *J. Roy. Statist. Soc., Ser. B*, 65: 837-849.
121. Wang Z, Louis TA (2003). Matching conditional and marginal shapes in binary random intercept models using a bridge distribution function. *Biometrika*, 90: 765-775.
122. Jabine TB, Louis TA (2003). Window on Washington: Funding formulas in a federal system. *Chance*, 16: 49-53.
123. Liu J, Louis TA, Pan W, Ma J, Collins A (2003). Methods for estimating and interpreting provider-specific, standardized mortality ratios. *Health Services & Outcomes Research Methodology*, 4: 135-149. PMCID: PMC2709867
124. Eberly L, Louis TA (2004). Bayes/frequentist compromise decision rules for Gaussian Sampling. *J. Statistical Planning & Inference*, 121: 191-207.

125. Shugarman LR, Campbell DE, Bird CE, Gabel J, Louis TA, Lynn J (2004). Differences in Medicare expenditures during the last 3 years of life. *J. General Internal Med.*, 19: 127-135. PMID: PMC1492140
126. Campbell DE, Lynn J, Louis TA, Shugarman L (2004). Medicare Program Expenditures Associated with Hospice Use. *Ann. Int. Med.*, 140: 269-277.
127. McCaffrey DF, Lockwood JR, Hamilton L, Koretz D, Louis TA (2004). Models for Value-Added Modelling of Teacher Effects. *J. Educational & Behavioral Statistics*, 29: 67-102.
128. McCaffrey, DF, Lockwood JR, Hamilton L, Koretz D, Louis TA (2004). Let's see more empirical studies of value-added models of teacher effects: A reply to Raudenbush, Rubin, Stuart and Zanuto. *J. Educational & Behavioral Statistics*, 29: 139-144.
129. Wang Z, Louis TA (2004). Marginalized Binary Mixed-Effects Models with Covariate-Dependent Random Effects and Likelihood Inference. *Biometrics*, 60: 884-891.
130. Ingall T, O'Fallon M, Asplund K, Goldfrank L, Hertzberg V, Louis TA, Christianson TJH (2004). Findings from the reanalysis of the NINDS tissue plasminogen activator for acute ischemic stroke treatment trial. *Stroke*, 35: 2418-2424. PMID: 15345796
131. Gilbertson DT, Liu J, Xue JL, Louis TA, Solid CA, Ebben JP, Collins AJ (2005). Projecting the number of patients with end-stage renal disease in the United States to the year 2015. *J. Am. Soc. Nephrol.*, 16(12): 3736-3741. (Erratum in: *J. Am. Soc. Nephrol.*, 2006 Feb;17(2):591.)
132. Jacobson J, Hengartner N, Louis TA (2005). Inequity measures for evaluations of environmental justice: a case study of close proximity to highways in NYC. *Environment & Planning A*, 37: 21-43.
133. Mangione-Smith R, Schonlau M, Chan K, Rosen M, Louis TA, Keeler E (2005). Measuring the Effectiveness of a Collaborative for Quality Improvement in Pediatric Asthma Care: Does Implementing the Chronic Care Model Improve Processes and Outcomes of Care? *Ambulatory Pediatrics*, 5: 75-82.
134. Schonlau M, Mangione-Smith R, Chan KS, Keesey J, Rosen M, Louis TA, Wu S-Y, Keeler E (2005). Evaluation of a Quality Improvement Collaborative in Asthma Care: Does it Improve Processes and Outcomes of Care? *Ann. Family Medicine*, 3: 200-208.
135. Pearson ML, Wu SY, Schaefer J, Bonomi AE, Shortell SM, Mendel PJ, Marsteller JA, Louis TA, Rosen M, Keeler EB (2005). Assessing the Implementation of the Chronic Care Model in Quality Improvement Collaboratives. *Health Services Research*, 40: 978-996.
136. Schisterman EF, Witcomb BW, Louis GMB, Louis TA (2005). Lipid Adjustment in the Analysis of PCB and Pesticide Data. *Environmental Health Perspectives*, 113: 853-857.
137. Dominici F, Levy JI, Louis TA (2005). Methodological Challenges and Contributions in Disaster Epidemiology. *Epidemiologic Reviews*, 27: 9-12.
138. Louis TA (2005). Introduction to Bayesian methods II: fundamental concepts. *Clinical Trials*, 2: 291-294.
139. Collins AJ, Kasiske B, . . . , Louis TA, . . . , Agodoa L (2005). United States Renal Data System: Excerpts from the United States Renal Data System 2004 annual data report: atlas of end-stage renal disease in the United States. *Am. J. Kidney Diseases*, 45 (1 Suppl 2): A5-A7.
140. Paddock SM, Ridgeway G, Lin R, Louis TA (2006). Flexible Prior Distributions for Triple-Goal Estimates in Two-Stage Hierarchical Models. *Computational Statistics & Data Analysis*, 50: 3243-3262.
141. Louis GB, Dukic VM, Heagerty PJ, Louis TA, Lynch CD, Ryan LM, Schisterman EF, Trumble A, and the pregnancy modeling working group (2006). Analysis of Repeated Pregnancy Outcomes. *Statistical Methods in Medical Research*, 15: 103-126.

142. Peng RD, Dominici F, Louis TA (2006). Model choice in time series studies of air pollution and mortality (with discussion). *J. Roy. Statist. Soc., Ser. A*, 169: 179–203.
[#1 most cited paper in JRSS-A, 2006--2007]
143. Marquis MS, Beeuwkes-Buntin M, Escarce JJ, Kapur K, Louis TA (2006). Is the individual market more than a bridge market? An analysis of disenrollment decisions. *Inquiry*, 42: 381-396.
144. Marquis MS, Beeuwkes-Buntin M, Escarce JJ, Kapur K, Louis TA, Yegian JM (2006). Consumer Decision Making in the Individual Health Insurance Market. *Health Affairs*, 25: w226-w234.
145. Liu J, Louis TA, Pan W, Ma JZ, Collins AJ (2006). State-Level Adjusted ESRD Incident Rates: Use of Observed vs model-predicted category-specific Rates. *Kidney International*, 69: 1459-1463.
146. DeMets DL, Stormo G, Boehnke M, Louis TA, Taylor J, Dixon DO (2006). Training of the next generation of Biostatisticians: A call to action in the U.S. *Statistics in Medicine*, 25: 3415-3429.
147. Roth MD, Connett JE, D'Armiento JM, Foronjy RF, Friedman PJ, Goldin JG, Louis TA, Mao JT, Muindi JR, O'Connor GT, Ramsdell JW, Ries AL, Scharf SM, Schluger NW, Sciurba FC, Skeans MA, Walter RE, Wendt CH, Wise RA; for the FORTE Study Investigators (2006). Feasibility of Retinoids for the treatment of Emphysema Study. *Chest*, 130: 1334-1345.
148. Lin R, Louis TA, Paddock S, Ridgeway G (2006). Loss Function Based Ranking in Two-Stage, Hierarchical Models. *Bayesian Analysis*, 1: 915-946. PMCID: PMC2896056
149. Walsh A, Louis TA, Glass G (2007). Detecting multiple levels of effect during survey sampling using a Bayesian Approach: Point prevalence estimates of a hantavirus in hispid cotton rats (*Sigmodon hispidus*). *Ecological Modeling*, 205: 29-38.
150. Thomas D, Jerrett M, Kuenzli N, Louis TA, Dominici F, Zeger S, Schwartz J, Burnett RT, Krewski D, Bates D (2007). Bayesian Model Averaging in Time Series Studies of Air Pollution and Mortality. *J. Toxicology & Environmental Health, Part A*, 70: 311–315.
151. Louis TA (2007). Our Future as History, Presidential Address, XXIII International Biometric Conference, Montréal Canada, July 2006. *Biometrics*, 63: 1-9.
152. Collins AJ, Kasiske B, . . . , Louis TA, . . . , Agodoa L (2005). Excerpts from the United States Renal Data System 2006 Annual Data Report. *Am. J. Kidney Diseases*, 49 (1 Suppl 1): A6-A7, S1-S296.
153. O'Connor PJ, Rush WA, Davidson G, Louis TA, Solberg LI, Crain AL, Johnson PE, Whitebird RR, (2008). Variation in Quality of Diabetes Care at the levels of Patient, Physician, and Clinic. *Preventing Chronic Disease*, 5(1): A15.
<http://www.cdc.gov/pcd/issues/2008/jan/06.0118.htm>.
154. Louis TA (2008). Compensation for Statistical Consulting Services: Observations and Recommendations. *Chance*, 21: 36-37.
155. Luo S, Crainiceanu C, Louis TA, Chatterjee N (2008). Analysis of Smoking Cessation Patterns using a stochastic mixed effects model with a latent cured state. *J. Am. Statist. Assoc.*, 103: 1002-1013. PMCID: PMC2658598
156. Bozzette SA, Ake CF, Tam HK, Phippard A, Cohen D, Scharfstein DO, Louis TA (2008). Long-term Survival and Serious Cardiovascular Events in HIV Patients Treated with Highly Active Antiretroviral Therapy. *J. AIDS*, 47:338-341.
157. Carlin BP, Louis TA (2009). *Bayesian Methods for Data Analysis*, 3rd ed. Chapman & Hall/CRC Press, Boca Raton, FL.
158. Crawford SO, Reich NG, An M-W, Brookmeyer R, Louis TA, Nelson KE, Notari EP, Trouern-Trend J, Zou S (2008). Regional and Temporal Variability in American Red Cross Blood Donations, 1995-2005. *Transfusion*, 48:1576-1583.

159. Hertzberg VS, Ingall TJ, O'Fallon WF, Asplund K, Goldfrank LR, Louis TA, Hengy-Christianson TJ (2008). A reanalysis of the NINDS trial of tissue plasminogen activator for acute ischemic stroke. *Clinical Trials*, 5: 308-315.
160. Jennings JM, Louis TA, Ellen JM, Srikrishnan AK, Sivaram S, Mayer K, Solomon S, Kelly R, Celentano, DD (2008). Geographic Prevalence and Multilevel Determination of Community-level Factors Associated with Herpes Simplex Virus Type 2 Infection in Chennai, India. *Am J. Epidemiology*, 167: 1495-1503. PMID: 18388348
161. Rao SR, Graubard BI, Schmid CH, Morton SC, Louis TA, Zaslavsky AM, Finkelstein DM (2008). Meta-Analysis of Survey Data: Application to Health Services Research. *Health Services & Outcomes Research Methodology*, 8(2): 98-114.
162. Luo S, Crainiceanu, CM, Louis TA, Chatterjee, N (2009). Bayesian Inference for Smoking Cessation with a Latent Cure State. *Biometrics*, 65, 970-978. doi:10.1111/j.1541-0420.2008.01167.x .
163. Lin R, Louis TA, Paddock S, Ridgeway G (2009). Ranking USRDS, provider-specific SMRs from 1998–2001. *Health Services Outcomes & Research Methodology*, 9: 22-38. DOI 10.1007/s10742-008-0040-0. PMCID: PMC2664159
164. Louis TA, Zeger SL (2009). Effective Communication of Standard Errors and Confidence Intervals. *Biostatistics*, 10: 1-2. doi:10.1093/biostatistics/kxn014 . PMCID: PMC2639348
165. Chu H, Chen S, Louis TA (2009). Random Effects Models in a Meta-Analysis of the Accuracy of Diagnostic Tests without a Gold Standard. *J. Am. Statist. Assoc.*, 104: 512-523. PMCID: PMC2701906
166. Jeanine M. D'Armiento, MD, PhD; Michael D. Roth, MD, FCCP; John E. Connett, PhD; Andrew Ghio, M.D., Paul J. Friedman, MD; Jonathan G. Goldin, M.D., PhD; Thomas A. Louis, PhD; Jenny T. Mao, MD, FCCP; Josephia R. Muindi, MD, PhD; George T. O'Connor, MD, FCCP; Joe W. Ramsdell, MD, FCCP; Andrew L. Ries, MD, FCCP; Steven M. Scharf, MD, PhD; Neil W. Schluger, MD; Frank C. Sciurba, MD, FCCP; Melissa A. Skeans, MS; Robert E. Walter, MD; Christine H. Wendt, MD; Robert A. Wise, MD and Robert F. Foronjy, MD (2009). Eosinophil and T-cell markers predict functional decline in COPD patients. *Respiratory Research*, 10:113; doi:10.1186/1465-9921-10-113
167. Carvalho B, Louis TA, Irizarry RA (2010). Quantifying Uncertainty in Genotype Calls. *Bioinformatics*, 26: 242-249. PMCID: PMC2804295
168. Louis TA, Ruczinski I (2010). Efficient Evaluation of Ranking Procedures when the Number of Units is Large, With Application to SNP Identification, *Biometrical Journal*, 52: 34-49. DOI 10.1002/bimj.200800143. PMCID: PMC2827664
169. Zhou Y, Dominici F, Louis TA (2010). Racial disparities in risks of mortality in a sample of the US Medicare population. *Applied Statistics, (JRSS-C)*, 59: 319-339.
170. Li Q, Fallin D, Louis TA, Lasseter VK, McGrath JA, Avarmopoulos D, Wolyniec PS, Valle D, Liang K-Y, Pulver AE, Ruczinski I (2010). Detection of SNP-SNP Interactions in Trios of Parents with Schizophrenic Children. *Genetic Epidemiology*, 34: 396-406. PMID: 20568257
171. Cohen SA, Ahmed S, Agree EM, Louis TA, Klassen AC, Naumova EN (2010). Trends for Influenza and Pneumonia Hospitalization among the Older Population in the United States: Age, Period, and Cohort Effects. *Epidemiology & Infection*, 138: 1135-1145.
172. Cohen SA, Ahmed S, Agree EM, Louis TA, Klassen AC, Naumova EN (2010). Childhood Hib vaccination and pneumonia and influenza burden in US seniors. *Vaccine*, 28: 4462-4469. PMCID: PMC2916073
173. Zhou Y, Dominici F, Louis TA (2010). A Smoothing Approach for Masking Spatial Data. *Ann. Appl. Statistics*, 4: 1451-1475.
174. Crump KS, Chen C, Chiu WA, Louis TA, Portier CJ, Subramaniam RP, White PD (2010). What Role for Biologically-Based Dose-Response Models in Estimating Low-Dose Risk? *Environmental Health Perspectives*, 118: 585-588. PMCID: PMC2866670

175. Ho Y-Y, Cope L, Louis TA, Parmigiani G (2010). Modeling Liquid Association. *Biometrics*, 67: 133–141.
176. Yeh HC, Clark JM, Emmons KM, Moore RH, Bennett GG, Warner ET, Sarwer DB, Jerome GJ, Miller 3rd ER, Volger S, Louis TA, Wells B, Wadden TA, Colditz GA, Appel LJ (2010). Independent but Coordinated Trials: Insights from the Practice Based Opportunities for Weight Reduction (POWER) Trials Collaborative Research Group. *Clinical Trials*, 7: 322–332. PMCID: PMC3266125
177. Paynter NP, Sharrett AR, Louis TA, Rosamond W, Folsom AR, Coresh J (2010). Paired Comparison of Observed and Expected Coronary Heart Disease Rates over 12 Years from the Atherosclerosis Risk In Communities Study. *Ann. of Epidemiology*, 20: 683–690.
178. Crump KS, Chen C, Louis TA (2010). The Future Use of *in vitro* Data in Risk Assessment to Set Human Exposure Standards—Challenging Problems and Familiar Solutions, *Environmental Health Perspectives*, 118: 1350-1354.
179. Eckel SP, Bandeen-Roche K, Chaves P, Fried LP, and Louis TA (2011). Surrogate screening models for the low physical activity criterion of frailty. *Aging Clinical & Experimental Research*, 23 (3): 209-216.
180. Louis TA, Carvalho BS, Fallin MD, Irizarry RA, Li Q, Ruczinski I (2011). Association Tests that Accommodate Genotyping Errors. pp. 393–420 in, *Bayesian Statistics 9*. (J. M. Bernardo, M. J. Bayarri, J. O. Berger, A. P. Dawid, D. Heckerman, A. F. M. Smith and M. West, Eds.), Oxford University Press, Oxford UK.
181. Wang C, Tan Z, Louis TA (2011). Exponential Tilt Models in the Presence of Censoring. *J. Statist. Planning & Inference*, 141: 1102-1117.
182. Paddock SM, Louis TA (2011). Percentile-based empirical distribution function estimates for performance evaluation of healthcare providers. *J. Roy. Statist. Soc. Ser. C (Applied Statistics)*, 60: 575-589. PMCID: PMC3171002
183. Forrest CB, Bevans KB, Riley AW, Crespo R, Hu Y, Louis TA (2011). School Outcomes of Children with Special Health Care Needs. *Pediatrics*, 128: 303-312.
184. An M-W, Reich NG, Crawford SO, Brookmeyer R, Louis TA, Nelson KE, Notari EP, Trouern-Trend J, Zou S (2011). A stochastic simulator of a blood product donation environment with demand spikes and supply shocks. *PLoS ONE*, 6: e21752.
185. Kempen JH, Altaweel MM Holbrook JT, Jabs DA, Louis TA, Sugar EA, Thorne JE, (2011). Randomized Comparison of Systemic Anti-inflammatory Therapy versus Fluocinolone Acetonide Implant Therapy for Intermediate, Posterior and Panuveitis: The Multicenter Uveitis Steroid Treatment Trial. *Ophthalmology*, 118: 1916–1926. PMCID: PMC3191365
186. Appel LJ, Clark JM, Yeh H-C, Wang N-Y, Coughlin JW, Daumit G, Miller E, Dalcin A, Jerome G, Geller S, Noronha G, Pozefsky T, Charleston J, Reynolds J, Rubin R, Louis TA, Brancati FL (2011). Accomplishing Weight Loss in Clinical Practice – A Comparative Effectiveness Trial. *New Engl. J. Med.*, 365: 1959–1968. PMID: 22085317
187. Taub MA, Schwender H, Beaty TH, Louis TA, Ruczinski I (2012). Incorporating Genotype Uncertainties into the Genotypic TDT for Main Effects and Gene-Environment Interactions. *Genetic Epidemiology*, 36: 225-234. PMCID: PMC3645945
188. Eckel SP, Louis TA, Chaves PHM, Fried LP, Margolis HG (2012). Modification by frailty status of the association between ambient air pollution and lung function in older adults in the Cardiovascular Health Study. *Am. J. Epidemiology*, 176: 214– 223, doi:10.1093/aje/kws001. PMCID: PMC3491964
189. Sutcliffe CG, Kobayashi T, Hamapumbu H, Shields T, Mharakurwa S, Thuma PE, Louis TA, Glass G, Moss WJ (2012). Reduced Risk of Malaria Parasitemia Following Household Screening and Treatment: A Cross-Sectional and Longitudinal Cohort Study. *PLoS ONE*, 7: e31396. PMCID: PMC3272029

190. Myers JA, Louis TA (2012). Comparing treatments via the propensity score: stratification or modeling? *Health Services & Outcomes Research Methodology*, 12: 29–43. doi:10.1007/s10742-012-0080-3 PMCID: PMC4238307 NIHMSID: NIHMS595080
191. Davidian M, Louis TA (2012). Why Statistics?. *Science*, 336: 12.
192. Jerome GJ, Rubin RR, Clark JM, Dalcin A, Coughlin JW, Yeh HC, Miller ER, Wang NY, Louis TA, Durkin N, Charleston J, Daumit GL, Appel LJ (2012). From Efficacy to Effectiveness: Lessons Learned from the Practice-Based Opportunities for Weight Reduction (POWER) Trial at Johns Hopkins. *J. of Comparative Effectiveness Research*, 1: 213-216.
193. Forrest CB, Bevans KB, Riley AW, Crespo R, Louis TA (2013). Health and School Outcomes During Children's Transition Into Adolescence. *J Adolesc. Health*, 52: 186–194. PMCID: PMC3552248
194. Rubin RR, M Peyrot M, Wang N-Y, Coughlin JW, Jerome GJ, Fitzpatrick, SL, Bennett WL, Dalcin A, Daumit G, Durkin N, Chang Y-T, Yeh H-C, Louis TA, Appel LJ (2013). Patient-reported outcomes in the practice-based opportunities for weight reduction (POWER) trial. *Quality of Life Research*, Mar 21. [Epub ahead of print] PubMed PMID: 23515902.
195. Matar DS, Louis TA, Pham JC, Berenholtz SM (2013). Achieving and Sustaining Ventilator-Associated Pneumonia-Free Time Among Intensive Care Units: Evidence from the Keystone ICU Quality Improvement Collaborative. *Infection Control and Hospital Epidemiology*, 34: 740-743. doi:10.1086/670989.
196. Li Q, Schwender H, Louis TA, Fallin MD, Ruczinski I (2013). Efficient simulation of epistatic interactions in case-parent trios. *Human Heredity*, 75: 12–22. PMID: 23548797, PMCID: PMC3800020
197. Taub M, Schwender HR, Younkin SG, Louis TA, Ruczinski I (2013). On multi-marker tests for association in case-control studies. *Frontiers in Genetics*, 4: article 252. doi:10.3389/fgene.2013.00252. PMID: 24379823, PMCID: PMC3863805
198. Berenholtz SM, Lubomski LH, Weeks K, Goeschel CA, Marsteller JA, Pham JC, Sawyer MD, Thompson DA, Winters BD, Cosgrove SE, Yang T, Louis TA, Lucas BM, George CT, Watson SR, Albert-Leshner MI, St. Andre JR, Combes JR, Bohr D, Hines SC, Battles JB, Pronovost PJ, On behalf of the On the CUSP: Stop BSI program (2014). Eliminating Central Line-Associated Bloodstream Infections: A National Patient Safety Imperative. *Infect Control Hosp Epidemiol*, 35: 56–62. PubMed: 24334799 doi:10.1086/674384
199. Jarmin RS, Louis TA, Miranda J (2014). Expanding the Role of Synthetic Data at the U.S. Census Bureau. *J. Intl. Assoc. for Official Statistics*, 30: 117–121.
200. Ricotta EE, Frese SA, Choobwe C, Louis TA, Shiff CJ (2014). Evaluating local vegetation cover as a risk factor for malaria transmission: a new analytical approach using ImageJ. *Malaria Journal*, 13: #94. doi:10.1186/1475-2875-13-94. PMCID: PMC4007634
201. Sugar EA, Holbrook JT, Kempen JH, Burke AE, Drye LT, Thorne JE, Louis TA, Jabs DA, Altaweel MM, Frick KD (2014). Cost-Effectiveness of Fluocinolone Acetonide Implant versus Systemic Therapy for Noninfectious Intermediate, Posterior, and Panuveitis. *Ophthalmology*, 121: 1855–1862. PMID: 24908205 PMCID: PMC4178167
202. Wu Z, Frangakis CE, Louis TA, Scharfstein DO (2014). Estimation of Treatment Effects in Matched-Pair Cluster Randomized Trials by Calibrating Covariate Imbalance Between Clusters. *Biometrics*, 70: 1014–1022.
203. Lum KJ, Sundaram R, Louis TA (2015) Accounting for length-bias and selection effects in estimating the distribution of menstrual cycle length. *Biostatistics*, 16: 113–128. doi:10.1093/biostatistics/kxu035.
204. Jerome GJ, Dalcin A, Coughlin JW, Fitzpatrick S, Wang N-Y, Durkin N, Yeh H-C, Charleston J, Pozefsky T, Daumit GL, Clark JM, Louis TA, Appel LJ (2014). Longitudinal Accuracy of Web-Based Self-Reported Weights: Results from the Hopkins POWER trial. *J Med Internet Res*, 16: e173. doi:10.2196/jmir.3332 .

205. Hartman K, Habermann H, Harris-Kojetin B, Jones C, Louis TA (2014). The Shifting Role of Official Statistics: Preparing for New Ethical Challenges. *Significance*, 11 (4): 44–46.
206. Wang C, Tan Z, Louis TA (2014). An Exponential Tilt Model for Quantitative Trait Loci Mapping with Time-to-Event Data. *J. Bioinformatics Research Studies*, 1 (2).
207. Wang C, Tan Z, Louis TA (2014). An Exponential Tilt Mixture Model for Time-to-Event Data to Evaluate Treatment Effect Heterogeneity in Randomized Clinical Trials. *Biometrics & Biostatistics International J.*, 1(2): 00006. doi:10.15406/bbij.2014.01.00006
208. Jerome GJ, Reza A, Daumit GL, Wang N-Y, Durkin N, Yeh H-C, Clark JM, Dalcin A, Coughlin JW, Charleston J, Louis TA, Appel LJ (2015). Willingness to Pay for Continued Delivery of a Lifestyle-Based Weight Loss Program: the Hopkins POWER Trial. *Obesity*, 23: 282–285. doi:10.1002/oby.20981
209. Dalcin AT, Jerome GJ, Fitzpatrick SL, Louis TA, Wang N-Y, Bennett W, Durkin N, Clark JM, Daumit GL, Appel LJ, Coughlin JW (2015). Perceived helpfulness of the individual components of a behavioral weight loss program: Results from the Hopkins POWER Trial. *Obesity Science & Practice*, 1: 23–32. doi: 10.1002/osp4.6
210. Lum KJ, Sundaram R, Louis GMB, Louis TA (2015). A Bayesian Joint Model of Menstrual Cycle Length and Fecundity. *Biometrics*, 72: 193–203. doi:10.1111/biom.12379
211. Normand S-L, Ash AS, Fienberg SE, Stukel T, Utts J, Louis TA (2016). League Tables for Hospital Comparisons. *Annual Review of Statistics and Its Application*, 3: 21–50. doi:10.1146/annurev-statistics-022513-115617
212. Keiding N, Louis TA (2016). Perils and potentials of self-selected entry to epidemiological studies and surveys (with discussion and response). *J. Roy. Statist. Soc., Ser. A*, 179: 319–376. [RSS read paper]
213. Lum KJ, Sundaram R, Barr DB, Louis TA, Louis GMB (2016). Preconception Female Serum Concentrations of Perfluoroalkyl Chemicals, Menstrual Cycle Length and Fecundity: Results from a Prospective Pregnancy Study. *Epidemiology*, 28: 90–98. PMID: 27541842.
214. Henderson NC, Louis TA, Wang C, Varadhan R (2016). Bayesian Analysis of Heterogeneous Treatment Effects for Patient-Centered Outcomes Research. *Health Services and Outcomes Research Methodology*, 16: 213–233. doi:10.1007/s10742-016-0159-3.
215. Fojo AT, Kendall EA, Kasaie P, Shrestha S, Louis TA, Dowdy DW (2017). Mathematical Modeling of “Chronic” Infectious Diseases: Unpacking the Black Box. *Open Forum Infectious Diseases*, 4(4), doi.org/10.1093/ofid/ofx172.
216. Wang C, Louis TA, Henderson N, Weiss CO, Varadhan R (2018). BEANZ: An R Package for Bayesian Analysis of Heterogeneous Treatment Effect with a Graphical User Interface. *Journal of Statistical Software*, 85: doi: 10.18637/jss.v085.i07.
217. Keiding N, Louis TA (2018). Web-based Enrollment and other types of Self-selection in Surveys and Studies: Consequences for Generalizability. *Annual Review of Statistics and Its Application*, 5: 25–47.
218. Selim M, Hanley D, Broderick J, Goldstein JN, Gregson BA, Falcione G, Gonzales NR, Gurol E, Kersten J, Lewkowicz H, Mendelow AD, Muehlschlegel S, Neuman R, Palesch Y, Rosenblum M, Sheth KN, Singh V, Ziai W, Keep RF, Aronowski J, Genstler C, James ML, Ratan R, Sansing L, Youd A, Xi G, Zille M, Anderson C, Awad I, Bastings E, Bednar M, Coon AL, Gottesman R, Katz B, Khan S, Koenig J, Koroshetz W, Ling S, Loftus C, Lockhardt J, Louis T, Marler J, Moy C, Pena C, Pollack C, Omert L, Shah M, Shoamanesh A, Singer M, Steiner T, Torbey M, Tymianski M, Wakhloo A, Vespa P, Zuccarello M, Zheng X (2018). Unmet Needs and Challenges in Clinical Research of Intracerebral Hemorrhage. *Stroke*, 49: 1299–1307.
219. Selim M, et al. {full author list in reference 218} (2018). Basic and Translational Research in Intracerebral Hemorrhage. *Stroke*, 49: 1308–1314.

220. Henderson N, Louis TA, Rosner G, Varadhan R (2018). Individualized Treatment Effects with Censored Data via Fully Nonparametric Bayesian Accelerated Failure Time Models. *Biostatistics*, 19: doi:10.1093/biostatistics/kxy028.
221. Datta A, Lin W, Rao A, Diouf D, Kouame A, Edwards JK, Bao L, Louis TA, Baral S (2018). Bayesian estimation of MSM population size in Côte d'Ivoire. *Statistics and Public Policy*, 16: 1–13. doi:10.1080/2330443X.2018.1546634.
222. Rosenblum M, Miller P, Reist B, Stuart EA, Thieme M, Louis TA (2019). Adaptive Design in Surveys and Clinical Trials: Similarities, Differences, and Opportunities for Cross-Fertilization. *J. Roy. Statist. Soc., Ser. A*, 182: 963–982. DOI: 10.1111/rssa.12438.
223. Daumit GL, Janssen EM, Jerome GJ, Dalcin AT, Charleston J, Clark JM, Coughlin JW, Yeh H-C, Miller ER, Durkin N, Louis TA, Frick KD, Wang N-Y, Appel LJ (2019). Cost of behavioral weight loss programs implemented in clinical practice: the POWER trial at Johns Hopkins. *Translational Behavioral Medicine*, doi: 10.1093/tbm/iby120.
224. Franco C, Little RJA, Louis TA, Slud EV (2019). Comparative Study of Confidence Intervals for Proportions in Complex Sample Surveys. *J. of Survey Statistics and Methodology*, 7: 334–364.
225. Brownstein NC, Louis TA, O'Hagan A, Pendergast J (2019). The Role of Expert Judgment in Statistical Inference and Evidence-Based Decision-Making. *The American Statistician*, 73 suppl: 56–68; doi.org/10.1080/00031305.2018.1529623
226. Li Q, Louis TA, Liu L, Wang C, Tsui AO (2019). Subnational estimation of modern contraceptive prevalence in five sub-Saharan African countries: a Bayesian hierarchical approach. *BMC Public Health*, 19:216; doi 10.1186/s12889-019-6545-3.
227. Habermann H, Louis TA (2020). Can the Fundamental Principles of Official Statistics and the Political Process Co-exist? *J. International Association of Official Statistics*, 36: 347–353.

Software

228. Ho YY, Parmigiani G, Louis TA, Cope L (2009). LiquidAssociation: R/Bioconductor package for estimating liquid association using the conditional normal model, 2009. Available at <http://www.bioconductor.org>
229. Wang C, Louis TA, Henderson NC, Weiss CO, Varadhan R (2018). BEANZ: An R Package for Bayesian Analysis of Heterogeneous Treatment Effects with a Graphical User Interface. Available at <https://doi.org/10.18637/jss.v085.i07>

Peer reviewed journal discussions

230. Louis TA (1985). Discussion of, “On the allocation of treatments in sequential medical trials,” by JA Bather; and “The search for optimality in clinical trials,” by P. Armitage. *Int. Statistical Rev.*, 53: 4–7.
231. Laird NM and Louis TA (1986). Discussion of, “Statistical modeling issues in school effectiveness studies,” by M. Aitkin and N. Longford. *J. Roy. Statist. Soc., Ser. A*, 149: 37.
232. Louis TA (1987). Discussion of, “Parameter orthogonality and appropriate conditional inference,” by D. R. Cox and N. Reid. *J. Roy. Statist. Soc., Ser. B*, 49: 31.
233. Louis TA (1988). Discussion of, “Publication Bias: A problem in interpreting medical data,” by C. B. Begg and J. A. Berlin. *J. Royal Statist. Soc. Ser. A*, 151: 456–457.
234. Louis TA (1989). Discussion of, “Interim analysis: the repeated confidence interval approach,” by C. Jennison and B. W. Turnbull. *J. Roy. Statist. Soc., Ser. B*, 51: 348.
235. Louis TA (1992). Discussion of, “Statistical issues arising in AIDS clinical trials,” by S. Ellenberg, D. Finkelstein and D. Schoenfeld. *J. Am. Statist. Assoc.*, 87: 576–579.
236. Louis TA (1992). Discussion of, “Hierarchical Bayes models for the progression of HIV infection using longitudinal CD4 T-cell numbers,” by N. Lange, B. Carlin, A. Gelfand. *J. Am. Statist. Assoc.*, 87: 626–628.

237. Louis TA (1992). Discussion of, "Evaluating therapeutic interventions: Some issues and experiences," by T. R. Fleming. *Statistical Science*, 7: 450-452.
238. Louis TA (1994). Discussion of, "Approximate Bayesian Inference with the Weighted Likelihood Bootstrap," by M. A. Newton and A. E. Raftery, *JRSS-B*, 55: 34.
239. Grambsch PM, Cowles MK, Louis TA (1994). Discussion of, "Bootstrap: more than a stab in the dark?" by G. Alastair Young, *Statistical Science*, 9: 398-400.
240. Louis TA (1996). Discussion of, "League tables and their limitations: Statistical issues in comparisons of institutional performance," by H. Goldstein and D. J. Spiegelhalter, *J. Roy. Statist. Soc., Ser. A*, 159: 423-424 (full article 385-443).
241. Louis TA (1996) Discussion in, "Conference on Meta-Analysis in the Design and Monitoring of Clinical Trials (Lee YJ, Guest Editor)." *Statistics in Medicine*, 15 #12.
242. Louis TA (1997). Discussion of, "Unified Frequentist and Bayesian testing of a precise hypothesis," by JO Berger, B Boukai, Y Wang, *Statistical Science*, 12: 152-154.
243. Louis TA (1999) Discussion of, "Some Statistical Heresies," by JK Lindsey, *The Statistician, part 1*, 48: 34.
244. Louis TA, Shen W (1999). Discussion of, "Bayesian Data Mining in large frequency tables, with an application to the FDA spontaneous reporting system," by W DuMouchel, *The American Statistician*, 53: 196-198.
245. Lockwood JR, Louis TA (2002). Discussion of, "Multi-course treatment strategies for rapidly fatal diseases," by PF Thall, H Sung, EH Esty, *Case Studies in Bayesian Statistics*, 6: 72-83. Springer.
246. Davidian M, Diggle P, Follmann D, Louis TA, Taylor J, Zeger S (2004). General discussion of joint modeling longitudinal and survival data, *Statistica Sinica*, 14: 621-624.
247. Louis TA (2005). Discussion of, "Maximization by Parts in Likelihood Inference," by PX-K Song, Y Fan and JD Kalbfleisch, *J. Am. Statist. Assoc.* 100: 1159-1160.
248. Louis TA (2005). Discussion of, "Where's the Utility in Bayesian Data-Monitoring in Clinical Trials?" by D Ashby, S-B Tan. *Clinical Trials*, 2: 206-207.
249. Louis TA (2009). Discussion of, "Likelihood inference for models with unobservables: another view," by Youngjo Lee and John A. Nelder, *Statistical Science*, 24: 270-272.
250. Louis TA (2010). Discussion of, "Conundrums with Uncertainty Factors," by R Cooke. *Risk Analysis*, 30: 346-348. [Society for Risk Analysis 2010 award for a contribution to the best issue-linked paper set.]
251. Louis TA (2011). Discussion of, "Towards more accessible conceptions of statistical inference," by C Wild, M Pfannkuch, M Regan, NJ Horton. *J. Roy. Statist. Soc., Ser. A*, 174: 284-285.
252. Louis TA (2012). Discussion of, "A Bayesian approach to complex clinical diagnoses: a case-study in child abuse," by N Best, D Ashby, F Dunstan, D Foreman, N McIntosh. *J. Roy. Statist. Soc., Ser. A*, 176: 53-96 (full article).
253. Louis TA (2012) Discussion of, "Statistical methods for healthcare regulation: rating, screening and surveillance," by D Spiegelhalter, C Sherlaw-Johnson, M Bardsley, I Blunt, C Wood, O Grigg. *J. Roy. Statist. Soc., Ser. A*, 175: 37-38.
254. Louis TA (2015). Expand the toolkit!; Discussion of, "Selecting the right tool for the job," by AL Caplan, C Plunkett, B Levin. *Am. J. of Bioethics*, 15:4, 40-42. doi:10.1080/15265161.2015.1009571.
255. Louis TA, Keiding N (2016). Discussion of, "Constrained Maximum Likelihood Estimation for Model Calibration Using Summary-level Information from External Big Data Sources," by N Chatterjee, Y-H Chen, P Maas, RJ Carroll. *J. Am. Statist. Assoc.*, 111: 123-124.
256. Waller L (2018). A Conversation with Tom Louis. *Statistical Science*, 33: 444-457.

257. Louis TA (2019). Discussion of, “The 15th Armitage Lecture – Randomization: The Forgotten Component of the Randomized Clinical Trial,” by WF Rosenberger, D Uschner, Y Wang. *Statistics in Medicine*, 38: 19–22.
258. Louis TA (2019). Discussion of, “Bayes, Oracle Bayes, and Empirical Bayes,” by B Efron. *Statistical Science*, 34: 202–05. <https://doi.org/10.1214/19-STS704> (full article, 177–235).
259. Louis TA (2019). Discussion of, “A comprehensive approach to problems of performance measurement,” by NI Fisher. *J. Roy. Statist. Soc., Ser. A*, 182: 795 (full article, 755–803).
260. Louis TA (2020). Discussion of, “Multiple-systems analysis for the quantification of modern slavery: classical and Bayesian approaches,” by BW Silverman, *J. Roy. Statist. Soc., Ser. A*, 183: to appear.

Monographs

261. Committee to review the Health Consequences of Service During the Persian Gulf War (1995). *Health Consequences of Service During the Persian Gulf War: Initial Findings and Recommendations for Immediate Action*. National Academy Press, Washington, DC.
262. Committee to review the health consequences of service during the Persian Gulf War (1996). *Health Consequences of Service During the Persian Gulf War: Recommendations for Research and Information Systems*. National Academy Press, Washington DC.
263. Panel on Estimates of Poverty (1997). *Small-Area Estimates of School-Age Children in Poverty. Interim Report 1: Evaluation of 1993 County estimates for Title I Allocations*. National Academy Press. Washington DC.
264. Panel on Estimates of Poverty (1998). *Small-Area Estimates of School-Age Children in Poverty. Interim Report 2: Evaluation of Revised 1993 County estimates for Title I Allocations*. National Academy Press. Washington DC.
265. Panel on Estimates of Poverty (1999). *Small-Area Estimates of School-Age Children in Poverty. Interim Report 3: Evaluation of 1995 County and School District Estimates for Title I Allocations*. National Academy Press. Washington DC.
266. Panel on Estimates of Poverty (2000). *Small-Area Income and Poverty Estimates: Priorities for 2000 and Beyond*. (CF Citro, G Kalton, eds.). National Academy Press, Washington DC.
267. Panel on Estimates of Poverty (2000). *Small-Area Income and Poverty Estimates: Evaluation of Current Methodology*. (CF Citro, G Kalton, eds.). National Academy Press, DC.
268. Jabine T, Louis TA, Schirm A (2001). *Choosing the right formula: Initial report of the panel on formula allocation*. National Academy Press, Washington DC.
269. Consensus Development Panel (2001). *Adjuvant Therapy for Breast Cancer*. NIH Consensus Statement, November 1-3, 2000, Volume 17, number 4.
270. Beckett, MK, Lim N, Louis TA, Knopman DS (2001). *Issues Associated With Environmental Exposures and the Health of the Elderly*. Report to the EPA.
271. Bozzette SA, Ake C, Louis TA (2002). *A Retrospective Study of Risk of Cardiovascular and Cerebrovascular Events in HIV Patients Using the U. S. Veterans Administration National Database*. VA Quality Enhancement Research Initiative for HIV & The Center for Research in Patient Oriented Care at the VA San Diego Health Care System, UCSD, RAND Health, and the VA Center for Quality Management.
272. HEI Diesel Epidemiology Working Group (2002). *Research directions to improve estimates of human exposure and risk from diesel exhaust*. Health Effects Institute, Boston MA.
273. Louis TA, Jabine T, Gerstein M (2003). *Statistical Issues in Allocating Funds by Formula*. National Academy Press.
274. HEI Accountability Working Group (2003). *Assessing Health Impact of Air Quality Regulations: Concepts and Methods for Accountability Research*. Health Effects Institute, Boston MA.

275. O'Fallon WM, Asplund K, Goldfrank LR, Hertzberg VS, Ingall TJ, Louis TA (2003). *Report of the t-PA Review Committee*. Report to NIH/NINDS.
276. Committee on the use of Third Party Research with Human Research Participants (2004). *Intentional Dosing Studies for EPA Regulatory Purposes: Scientific and Ethical Issues*. The National Academies Press.
277. Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants (2005). *New Source Review for Stationary Sources of Air Pollution, Interim Report*. The National Academies Press.
278. Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants (2006). *New Source Review for Stationary Sources of Air Pollution, Final Report*. The National Academies Press.
279. Workshop Steering Committee (2011). *Facilitating Innovation in the Federal Statistical System: Summary of a Workshop*. (H. Habermann Rapporteur) The National Academies Press.
280. The COPSS-CMS White Paper Committee (2012). *Statistical Issues in Assessing Hospital Performance*. by, Arlene S. Ash, Stephen E. Fienberg, Thomas A. Louis, PhD (chair), Sharon-Lise T. Normand, Thérèse A. Stukel, Jessica Utts.
http://nisl05.niss.org/copss/COPSS_CMS_Report.pdf
<http://www.cms.gov/HospitalQualityInits/Downloads/HospitalStatisticalIssues-in-AssessingHospitalPerformance.pdf>

Book Chapters

281. Louis TA (1982). Analysis of categorical data: Exact tests and log-linear models. In, *Statistics in Medical Research, Methods and Issues with Applications in Cancer Research* (V Miké and KE Stanley, eds.). Wiley, New York.
282. Louis TA, and DerSimonian R (1982). Health statistics based on discrete population groups. In, *Regional Variations in Hospital Use* (D Rothberg, ed.). DC Heath & Co., Boston.
283. Lavori P, Louis TA, Bailar JC, and Polansky M (1986, 1992 {2nd edtn.}). Designs for clinical experiments: Parallel comparisons of treatment. In, *Medical Uses of Statistics* (JC Bailar and F Mosteller, eds.) NEJM Books, Waltham, MA.
284. Bailar JC, Louis TA, Lavori P, and Polansky M (1986, 1992 {2nd edtn.}). Designs for clinical experiments: Studies without internal controls. In, *Medical Uses of Statistics*. (JC Bailar and F Mosteller, eds.). NEJM Books, Waltham, MA.
285. Louis TA, Lavori P, Bailar JC, and Polansky M (1986, 1992 {2nd edtn.}, 2009 {3rd edtn.}). Crossover and self-controlled designs in clinical research. In, *Medical Uses of Statistics*. (JC Bailar and F Mosteller, eds.) NEJM Books, Waltham, MA.
286. Louis TA (1989). Meta Modeling. Section 1.1 'Biometrics,' In, *Challenges for the '90s*. American Statistical Association.
287. Moses L, and Louis TA (1986, 1992 {2nd edtn.}). Statistical consulting in clinical research: The two-way street. In, *Medical Uses of Statistics*. (JC Bailar and F Mosteller, eds.). NEJM Books, Waltham, MA.
288. Bailar JC, Louis TA, Lavori P, and Polansky M (1986, 1992 {2nd edtn.}). A classification for biomedical research reports. In, *Medical Uses of Statistics*. (JC Bailar and F Mosteller, eds.). NEJM Books, Waltham, MA.
289. Lagakos S and Louis TA (1985). The statistical analysis of rodent tumorigenicity experiments. Chapter 7 in, *Toxicological Risk Assessment. Volume I: Biological and Statistical Criteria*. (DB Clayson, D Krewski and IC Munro, eds.). CRC Press.

290. Louis TA, Bouffieux C, Tazaki H, Acosta-Otero A, Khoury S, Kopp S, Mazeman E, Obata K, Tagnon H, and Wittes RE (1986). Policy on Monitoring and Reporting Results of Bladder Cancer Clinical Trials, pp. 33–48. In, *Developments in Bladder Cancer*. Alan R. Liss, New York.
291. Bailar JC and Louis TA (1988). Statistical Concepts and Issues. pp. 30–55. In, *Variations in Susceptibility to Inhaled Pollutants: Identification, Mechanisms and Policy Implications*. (J Brain, B Beck, J Warren and R Shaikh, eds.) Johns Hopkins Press, Baltimore, MD.
292. Louis TA (1989). Contribution to Chapter 8–Fred Mosteller at Harvard. In, *A Statistical Model: Frederick Mosteller Contributions to Statistics, Science, and Public Policy* (SE Fienberg and DC Hoaglin, eds.). Springer Verlag, New York.
293. Louis TA (1989). Challenges for the 1990s in Biometrics: 1.1 Meta Modeling; 1.2 Correlated Discrete Data. pp. 3–5. In, *Challenges for the 1990s*. Am. Statistical Assoc.
294. Zelterman D, Louis TA (1992). Contingency tables in medical studies. Chapter 15 in, *Medical Uses of Statistics*, 2nd edtn. (JC Bailar and F Mosteller, eds.). NEJM Books, Waltham, MA.
295. Louis TA (1993). Wrap up discussion. pp. 297–301 in, *Case Studies in Bayesian Statistics* (C Gatsonis, JS Hodges and RE Kass eds.). Springer, New York.
296. Zelterman D, Louis TA (1994). Bayesian Approaches to Research Synthesis, Chapter 26 in, *The Handbook of Research Synthesis* (H Cooper and L Hedges, eds.). Russell Sage Foundation, New York.
297. Carlin BP, Louis TA (1995). Identifying prior distributions that produce specific decisions, with application to monitoring clinical trials. pp. 493–503 in, *Bayesian Analysis in Statistics and Econometrics: Essays in Honor of Arnold Zellner* (D Berry, K Chaloner and J Geweke, eds.). Wiley, New York.
298. Carlin BP, Chaloner KM, Louis TA, Rhame FS (1995). Elicitation, monitoring and analysis for an AIDS clinical trial (with discussion). pp. 48–89 in, *Case Studies in Bayesian Statistics, Vol. II* (C Gatsonis, J Hodges, R Kass and N Singpurwalla, eds.), Springer, New York.
299. Louis TA (1996). Chapters 1, 3 and 6 in, *Toepassingen van Bayesiaanse en empirisch-Bayesiaanse methoden in eipdemiologisch en klinisch-wetenschappelijk onderzoek* (JC van Houwelingen and TA Louis, eds.) Boerhaave Commissie voor Postacademisch Onderwijs in de Geneeskunde Rijksuniversiteit, Leiden, The Netherlands.
300. Conlon EM, Louis TA (1999). Addressing Multiple Goals in Evaluating Region-specific Risk Using Bayesian methods. Chapter 3 (pp. 31–47) in, *Disease Mapping and Risk Assessment for Public Health* (A Lawson, A Biggeri, D Brohning, E. Lesaffre, J-F Viel and R Bertollini, eds.). Wiley.
301. Louis TA (2000). Non-time series combination of information from the census, The American Community Survey and administrative records: Addressing multiple and non-standard goals. In, *Methodological Issues involving the American Community Survey: Summary of a workshop* (M Cohen ed.). National Academy Press, Washington DC.
302. Louis TA (2000). Bayes/EB ranking, histogram and parameter estimation: Issues and Research Agenda. pp. 1-16 in, *Empirical Bayes and Likelihood Inference* (SE Ahmed and N Reid, eds.). Lecture Notes in Statistics, #148, Springer, New York.
303. Buck G, Louis TA (2000). Bias. In, *The Encyclopedia of Public Health* (L Breslow, ed.). Macmillan, New York.
304. Louis TA (2002). Empirical Bayes methods. pp. 657–667 in, *Encyclopedia of Environmetrics, Vol 2* (A H Shaarawi and WW Piegorsch, eds.). Wiley, New York.
305. Louis TA (2009). Discussion of “Uncertainty Quantification for Dose-Response Models using Probabilistic Inversion with Isotonic Regression.” pp. 82–86 in, *Uncertainty Modeling in Dose Response: Bench Testing Environmental Toxicology* (RM Cooke, ed.). Wiley, New York.

306. Caffo BS, Peng RD, Dominici F, Louis TA, Zeger SL. (2011). Parallel MCMC for Analyzing Distributed Lag Models With Systematic Missing Data for an Application in Environmental Epidemiology. Chapter 20 in, *The Handbook of Markov Chain Monte Carlo* (S Brooks, A Gelman, G Jones, and X-L Meng, eds.). CRC Press.
307. Louis TA (2011). The Advantages of Bayesian Structuring: Estimating Ranks and Histograms. pp. 16–19 in, *The International Encyclopedia of Statistical Science, Part 1* (M Lovric, ed.). Springer Science.
308. Louis TA (2020). The Ways of Bayes, pp??-?? in, *Statistics in the Public Interest: In Memory of Stephen Fienberg* (A Carriquiry, B Eddy and J Tanur, eds.). Springer.

Proceedings

309. Anderson J, and Louis TA (1979). A comparison of smooth empirical Bayes estimators. *Proc. Soc. Statist. Sect.*, Am. Statist. Assoc.: 91–95.
310. Louis TA, Bailar JC, and Lavori P (1984). Principles of clinical pharmacology III: Experimental designs for clinical investigators. *Proc. World Congress on Clinical Pharmacology & Therapeutics*, 19–30.
311. Louis TA, Orav J (1985). Sacrifice plans for the carcinogen bioassay. pp. 36–41 in, *Proc. of Long Term Animal Carcinogenicity Studies: A Statistical Perspective*. Am. Statist. Assoc., Washington, DC.
312. Carlin J, Louis TA (1985). Controlling error rates by using conditional expected power to select tumor sites. *Proc. Biopharmaceutical Section*, Am. Statist. Assoc.: 11–18.
313. Berlin JA, Begg, CB, Louis TA (1987). A method for assessing the magnitude of publication bias in a sample of published clinical trials. *Proc. Biopharmaceutical Section*, Am. Statist. Assoc.: 1–5.
314. Laird NM, Louis TA (1989). Smoothing the non-parametric estimate of a prior distribution by roughening: A computational study. *Proc. Business and Economics section*, Am. Statistical Assoc.: 613–620.
315. Grandits G, Grambsch P, Louis TA (1992). A SAS macro for performing analyses of random effects models of longitudinal data using the IML procedure. pp. 1145–1150 in, *Proc., Seventeenth Annual SAS Users Group International Conference*. SAS Institute, Carey NC.
316. Waller LA, Louis TA, Carlin BP (1996). Bayes and empirical Bayes methods to assess Environmental Justice. pp. 21–28 in, *Proc., Section on Statistics and the Environment.*, Am. Statistical Assoc.
317. Shen W, Louis TA (1997). Empirical Bayes estimation via the smoothing by roughening approach. pp. 124–129, *Proc., Section. on Bayesian Statistical Science.*, Am. Statist. Assoc.
318. Eberly LE, Louis TA (2000). Bayes/frequentist compromise rules for outlier detection. Pp 114–118 in, *Proc., Section on Bayesian Statistical Science.*, Am. Statistical Assoc.
319. Eberly LE, Louis TA (2000). Estimating random effects based on both Bayes and frequentist performance measures. pp 67–71 in, *Proc., Section on Biostatistics.*, Am. Statistical Assoc.
320. Franco C, Little RJA, Louis TA, Slud EV (2014). Coverage Properties of Confidence Intervals for Proportions in Complex Surveys. *Proc., Section of Survey Methods*, Am. Statist. Assoc.
321. Prevost R, Louis TA (2015). REVEAL: A Paradigm for Official Statistics. *ISI 2015 Proceedings*

Book Reviews

322. Louis TA (1984). Review of, “Encyclopedia of Statistical Sciences, Vols. 3 and 4.” *The American Scientist*, 72: 410–411.

323. Louis TA (1986). Review of, “Modern Concepts and Theorems of Mathematical Statistics (1986),” by Manoukian EB. *ISI Short Book Reviews*, 6: 24.
324. Louis TA (1986). Review of, “Sequential Methods in Statistics (1986),” by Wetherill GB, Glazebrook KD. *ISI Short Book Reviews*, 6: 42.
325. Louis, TA (1989). Review of, “Designing Clinical Research (1988),” by Hulley SB, Cummings SR (eds.), Williams & Wilkins, Baltimore. *The Am. J. of Preventive Med.*, 5: 245.
326. Louis TA (1989). Review of, “Multivariate Analysis of Variance and Repeated Measures,” by Hand DJ, Taylor CC. *Statistics in Medicine*, 8: ??.
327. Louis TA (1990). Review of, “Empirical Bayes Methods (1989),” by Maritz JS, Lwin T. *ISI Short Book Reviews*, 10: 5.
328. Louis TA (1993). Review of, “Medical Statistics: A Commonsense Approach,” by Campbell and Machin. *Controlled Clinical Trials*, 14: 251-252.
329. Louis TA (1993). Review of, “The Use of Restricted Significance Tests in Clinical Trials,” by Salsburg D. ISI. *ISI Short Book Reviews*, ??: ??.
330. Louis TA (1994). Review of, “Meta-Analysis by the Confidence Profile Method: The Statistical Synthesis of Evidence,” by Eddy DM, Hasselblad V, Shachter R. *Am. J. Epi.*, 139: 439-441.
331. Louis TA (1996). Review of, “Statistical Methods in Medical Research: Developments in Clinical Trials,” by Gehan EA and Lemak NA. *J. Am. Statist. Assoc.*, 91: 430-431.
332. Louis TA (1996). Review of, “Statistical Methods in Epidemiology,” by Clayton D and Hills M. *Statistics in Medicine*, 15: 1459-1461.
333. Louis TA (2000). Review of, “Bayesian Statistics 6,” edited by JM Bernardo, JO Berger, AP Dawid, AFM Smith. *Statistics in Medicine*, 19: 3143-3144.
334. Louis TA (2001). Review of, “Meta-Analysis in Medicine and Health Policy,” edited by DK Stangl and DA Berry. Marcel Dekker, Inc., New York (2000). *Controlled Clinical Trials*, 22: 266-268.
335. Louis TA (2003). Review of, “Statistical Methods in Medical Research, 4th edition,” by P Armitage, G Berry, JNS Matthews. *Statistics in Medicine*, 22: 2087-2088.
336. Louis TA (2008). Review of, “Elementary Bayesian Biostatistics,” by L. A. Moyé. *Statistics in Medicine*, 28: 1176-1177.
337. Louis TA (2011). Review of, “Fundamentals of Clinical Trials, 4th edition,” by L. M. Friedman, C. D. Furberg, D. L. DeMets. *Clinical Trials*, 8: 353-354.

Letters, Columns, Blogs, Podcasts

338. Louis TA (1982). Radiation Effects (Letter regarding Schull et al. (1981), *Science*, 213: 1220-1227; “Genetic effects of the atomic bomb: A reappraisal.”). *Science*, 215: 458.
339. Louis TA, Manu P (1989). Response to a letter regarding Manu et al., *J. Clin. Pharm. Thera.* 13: 213-217. *J. Clin. Pharm. Thera.*, 14: 481-482.
340. Louis TA (1995). Letter regarding ethics in consulting. *Amstat News*, May 1995: 5.
341. Bozzette SA, Louis TA (2003). Response to letter regarding, “Cardiovascular Disease and HIV Infection.” *New Engl. J. Med.*, 349: 1870.
342. Ingall T, O’Fallon M, Asplund K, Goldfrank L, Hertzberg V, Louis TA, Christianson TJH (2005). Response to J. Mann letter regarding “Findings from the reanalysis of the NINDS tissue plasminogen activator for acute ischemic stroke treatment trial.” *Stroke*, 36: 230-231.
343. Louis TA (2006-2007). President’s Corner, *Biometric Bulletin*, vols. 23-24, #s 1-4.
344. Baròn et al. (2009). Letter to Harold Varmus, NCI Director, regarding the Duke genome signature situation.
345. Little RJA, Louis TA (2013). Data for a Brighter Democracy, *Huffington Post* http://www.huffingtonpost.com/rod-little/decennial-census_b_3046611.html?utm_hp_ref=science

- 346. Louis TA (2013). Statistics Matter.
<http://researchmatters.blogs.census.gov/2013/05/30/statistics-matter/>
- 347. Comment regarding mobile phone data for population counts
<http://news.sciencemag.org/math/2014/10/taking-census-cellphones?rss=1>
- 348. Louis TA (2020). Career and Time-management audio podcast. Faculty Factory interview with Kimberly A. Skarupski; visit <https://facultyfactory.org/podcast/#episode38>.
- 349. Louis TA (2020). Simple and Effective Publishing. Faculty Factory interview with Kimberly A. Skarupski; visit <https://facultyfactory.org/podcast/#episode74>.