# Devin Incerti

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## Education

**2015** Ph.D. Public Policy (Political Economy), Princeton University

**2013** M.A. Public Affairs, Princeton University

**2009** B.A. Mathematics and Economics, University of California, San Diego

**2009** B.A. Political Science, University of California, San Diego

## Employment

**2019-** Senior Data Scientist, Genentech, South San Francisco, CA

**2019-19** Senior Research Economist, Precision Health Economics, Oakland, CA

**2017-19** Lead Economist - Open-Source Value Project, Innovation and Value Initiative, Oakland, CA

**2017-19** Research Economist, Precision Health Economics, Oakland, CA

**2016-17** Associate Research Economist, Precision Health Economics, Oakland, CA

**2015-16** Research Economist Intern, Precision Health Economics, Oakland, CA

**2009-10** Research Associate, NERA Economic Consulting, Los Angeles, CA

## Publications

Stevens W, **Incerti D**, Peneva D, Shrestha A, Ramaswamy K, Smith G (in press). An empirical investigation of time-varying cost-effectiveness across the product life cycle. *Health Economics*. 2020 February 21. https://doi.org/10.1002/hec.4004.

Sussell J, Silverstein AR, Goutam P, **Incerti D**, Kee R, Chen CX, Batty Jr DS, Jansen JP, Kasiske BL. The economic burden of kidney graft failure in the United States. *American Journal of Transplantation*. 2020 February 4. https://doi.org/10.1111/ajt.15750.

Jansen JP, **Incerti D**, Linthicum M. Developing Open-Source Models for the US Health System: Practical Experiences and Challenges to Date with the Open Source Value Project. *Pharmacoeconomics*. 2019 November 1;37(11):1313-20. https://doi.org/10.1007/s40273-019-00827-z.

**Incerti D**, Thom H, Baio G, Jansen JP. R you still using Excel? The advantages of modern software tools for health technology assessment. *Value in Health*. 2019 May 1;22(5):575-9. https://doi.org/10.1016/j.jval.2019.01.003.

Jansen JP, **Incerti D**, Curtis, JR. Towards relevant and credible cost-effectiveness analysis for value assessment in the decentralized US healthcare system. *Journal of Managed Care & Specialty Pharmacy*. 2019 May;25(5):518-521. https://doi.org/10.18553/jmcp.2019.25.5.518.

Ton TG, Bennett M, **Incerti D**, Peneva D, Druzin M, Stevens W, Butwick A, Lee HC. Maternal and Infant Adverse Outcomes Associated with Mild and Severe Preeclampsia during the First Year after Delivery in the United States. *American Journal of Perinatology*. 2019 Feb 19. https://doi.org//10.1055/s-0039-1679916.

**Incerti D**, Curtis JR, Shafrin J, Lakdawalla DN, Jansen JP. A flexible open-source decision model for value assessment of biologic treatment for rheumatoid arthritis. *Pharmacoeconomics*. 2019 Jun 1;37(6):829-43. https://doi.org/10.1007/s40273-018-00765-2. (Full-text).

**Incerti D**, Browne J, Huber C, Baker CL, Makinson G, Goren A, Wilke R, Stevens W. An empirical tool for estimating the share of unmet need due to healthcare inefficiencies, suboptimal access, and lack of effective technologies. *BMC Health Services Research*. 2019 Dec;19(1):113. https://doi.org/10.1186/s12913-019-3914-7.

**Incerti, D**. The Optimal Allocation of Campaign Funds in U.S. House Elections. *Electoral Studies*. 2018 Dec 1;56:102-13. https://doi.org/10.1016/j.electstud.2018.09.010 (PDF, Supplement, GitHub).

**Incerti D**, Summers N, Ton TG, Boscoe A, Chandraker A, Stevens W. The Lifetime Health Burden of Delayed Graft Function in Kidney Transplant Recipients in the United States. *Medical Decision Making Policy & Practice*. 2018. Jun;3(1):2381468318781811. http://journals.sagepub.com/doi/full/10.1177/2381468318781811.

Frasco MA, Shih T, **Incerti D**, Diaz Espinosa O, Vania DK, Thomas N. Incremental net monetary benefit of ocrelizumab relative to subcutaneous interferon $\beta$-1$\alpha$. *Journal of Medical Economics*. 2017 Oct 3;20(10):1074-82. http://dx.doi.org/10.1080/13696998.2017.1357564.

Stevens W, Shih T, **Incerti D**, Ton TG, Lee H, Peneva D, Macones GA, Sibai BM, Jena AB. 2017. Short-term costs of preeclampsia to the United States health care system. *American Journal of Obsetrics & Gynecology*. 2017 Sep 1;217(3):237-48. http://dx.doi.org/10.1016/j.ajog.2017.04.032.

Shahabi A, Peneva D, **Incerti D**, McLaurin K, Stevens W. Assessing Variation in the Cost of Palivizumab for Respiratory Syncytial Virus Prevention in Preterm Infants. *PharmacoEconomics-Open*. 2017:1-9. https://doi.org/10.1007/s41669-017-0042-3.

Jansen JP, **Incerti D**, Mutebi A, Peneva, D, MacEwan JP, Stolshek B, Kaur P, Gharaibeh M, Strand V. Cost-effectiveness of sequenced treatment of rheumatoid arthritis with targeted immune modulators. *Journal of Medical Economics*. 2017 Jul 3;20(7):703-14. http://dx.doi.org/10.1080/13696998.2017.1307205 (Supplement).

### Manuscripts Under Review

**Incerti D**, Incerti T. Are regime changes always bad economics? Evidence from daily financial data. (PDF, GitHub).

### Working Papers

**Incerti D**. An Assessment of Long-term Healthcare Expenditure Risk Using a Dynamic Bayesian Model. (PDF).

**Incerti D**. Racial, Ethnic and Educational Disparities in Pharmaceutical Expenditures. (PDF).

### Blogs

Contributor to R-bloggers. (Link to posts).

Jansen JP, **Incerti D**, Linthicum M. An Open-Source Consensus-Based Approach To Value Assessment. Health Affairs Blog. 2017 Dec 1.

### Oral Presentations

Data science with R for personalized and efficient drug development. rstudio::conf, 2020.

Excel With Your Economic Models Using R. ISPOR Annual International Meeting, New Orleans, 2019 (with Jeroen Jansen and Joseph Levy). (PDF, GitHub).

Can We Make Global Value Assessments More Flexible and Comprehensive? ISPOR Annual International Meeting, New Orleans, 2019 (with Peter Neumann, Finn Børlum Kristensen, and Mark Sculpher). (PDF).

A Comparison of Three and Four State Economic Models for Cost-effectiveness Analysis in Oncology (selected oral abstract). ISPOR Annual International Meeting, New Orleans, 2019. (PDF).

R You Seriously Still Using Excel? The Many Advantages of Open Source Decision Modeling in Efficient Programming Languages. ISPOR Annual European Congress, Barcelona, Spain, 2018 (with Jeroen Jansen, Howard Thom, and Gianluca Baio). (PDF).

Developing flexible, iterative, and transparent decision models: a detailed look at a rheumatoid arthritis individual patient simulation. ISPOR Student Network Educational Webinar, 2018. (PDF).

Open-Source Consensus-Based Models to Improve the Cost-Effectiveness of Rheumatology Care (selected oral abstract). ACR/ARHP Annual Meeting, San Diego, 2017.

Estimates of the costs of preeclampsia to the United States health care system. March of Dimes Prematurity Research Center at Stanford University, Palo Alto, 2016 (with Thanh G.N. Ton).

### Software

*hesim*

Author of `hesim`, an R package for health economic simulation modeling and decision analysis that provides a general framework for integrating statistical analyses with economic evaluation. The package currently supports N-state partitioned survival models and state-transition models, as well as individualized cost-effectiveness analysis. It is designed for high performance simulation modeling including microsimulation and probabilistic sensitivity analysis with core code written in C++ (Website).

*IVI-NSCLC model*

Author of the IVI-NSCLC model, an open-source simulation model for assessing the value of sequences of treatment to treat patients with epidermal growth factor receptor (EGFR) positive non-small cell lung cancer (NSCLC). Lead programmer of the R package. (GitHub).

- Model documentation: PDF documentation describing the IVI-NSCLC model.
- iviNSCLC R package: an R package for running the IVI-NSCLC model.

- IVI-NSCLC basic interface: a general audience web application allowing those who are not experts in health economics to run the model and learn more about value assessment.
- IVI-NSCLC advanced interface: a web application that allows users full control over the model for performing cost-effectiveness and multi-criteria decision analyses.

*IVI-RA model*

Author of the IVI-RA model, an open-source individual patient simulation model for assessing the value of disease-modifying anti-rheumatic drugs (DMARDs) to treat rheumatoid arthritis. Lead programmer of the R package and R Shiny web apps. (GitHub).

- Model documentation: PDF documentation describing the IVI-RA model.
- iviRA R package: an R package for running the IVI-RA model.
- IVI-RA Model Interface: an R Shiny web application providing full control over the treatments, the patient population, model parameters, model structures, and time horizon.
- IVI-RA Value Tool: a more streamlined R Shiny web application for users with less experience in decision-analytic modeling and rheumatoid arthritis.

*R Shiny web applications*

- An R Shiny web application that aids diagnosis of skeletal dysplasias based on clinical features. (Link).
- Interactive plots of parametric survival distributions. (Link).

## Honors and Awards

**2010-15** *Centennial Fellowship*, Princeton University

**2009** *The Award for Excellence in Joint Mathematics-Economics* granted to the most outstanding graduating Senior in Joint Mathematics-Economics, UCSD Department of Economics

**2009** *DeWitt Higgs Award* granted to the outstanding graduating Senior in the area of law and public policy, UCSD Department of Political Science

**2009** *Michael Addison Award* for the most outstanding Senior research paper, Warren College (graduating class of 950 students)

## Skills and Interests

*Computing*

Most experienced: R, Stata, LaTeX, Excel

Some experience: C++, Python, MySQL, Stan, JAGS

*Athletics*

UCSD Varsity Baseball Letterman, shortstop and centerfield, 2004 – 2006