



# LUIS JÓDAR, Ph.D.

---

Email [luis.jodar@pfizer.com](mailto:luis.jodar@pfizer.com)  
Linkedin [linkedin.com/in/luis-jodar](https://www.linkedin.com/in/luis-jodar)

---

## SENIOR VICEPRESIDENT AND CHIEF MEDICAL OFFICER

VACCINE AND INFECTIOUS DISEASES R&D | CLINICAL TRIALS | MEDICAL AFFAIRS | RWE AND EPIDEMIOLOGY | REGULATORY STRATEGY | PRODUCT & BUSINESS DEVELOPMENT | INTERNATIONAL HEALTH | OUTCOMES RESEARCH | VACCINES POLICY & CORPORATE AFFAIRS | PUBLIC & PRIVATE PARTNERSHIPS | PROGRAM DEVELOPMENT | PORTFOLIO INVESTMENT MANAGEMENT

Global SVP and Chief Medical Officer with over 25 years of vaccines/infectious diseases and Real World Evidence experience in leadership positions at Wyeth, Pfizer Inc. and in academic and international public sectors, including the International Vaccines Institute in Seoul, the World Health Organization, and the European Commission.

### World Renowned Subject Matter Expert

Trained as a Ph.D neuroimmunologist and public health in Spain and Japan and recognized globally for in-depth expertise in vaccines/infectious diseases, RWE and epidemiological research, clinical development & regulatory sciences, portfolio management and investment decisions, and driving policy decisions on disease prevention/treatment and significant improvements in public health in over 50 countries. Global expert with numerous accreditations, certifications and over 130 publications in most prestigious peer-reviewed journals. Awarded the “Officer Cross of the Order of Civil Merit” from the King of Spain for his work on vaccines and vaccination programs in developing countries and Doctor of Science honoris causa, Drew University. Recipient of multiple grants including the development, registration and introduction of a serogroup A meningococcal vaccine in the Epidemic belt countries of sub-Saharan Africa to WHO/PATH, funded by the Bill and Melinda Gates Foundation.

### Leadership, Management & Partnerships

A dynamic, forward thinking leader providing expertise, management, and experience on, scientific R&D, clinical, regulatory, Real-World Evidence, medical affairs, investment analysis and decisions, product valuation and policy matters related to vaccine/antivirals development, clinical evaluation, approval, and access. Leads the medical group for Vaccines and antivirals r with more than 180 colleagues with multidisciplinary expertise. Conduct observational/low-interventional and pragmatic clinical studies for over 40 assets to accelerate clinical development programs, expand label indications or increase access with over 150 publications per year. Multidisciplinary infrastructure gathering vaccinologists, infectious diseases pediatricians, immunologists, clinical epidemiologists, clinical operations, biostatisticians, and data analysts. Manages complex portfolios, review candidate valuations and make investment decisions on candidate products post POC to licensure and launch. Forges global partnerships and collaborates with organizations worldwide, including key vaccine policy committees, governments and elected officials, health professionals, academia, vaccines manufacturers, global agencies, development partners, and the private sector to advance scientific research, clinical development programs, licensure and launch vaccination programs to help prevent and control major infectious diseases. A recognized industry leader advancing global policies and best practices for clinical/regulatory, medical affairs and RWE, vaccine development, safety, business development, portfolio investment and immunization programs. Develops and manages relationships with external partners, which has helped secure critical funding for the development of vaccines and immunization programs globally.

---

## EXPERIENCE

---

### PFIZER INC. -

May 2008 – Present

#### Senior Vice President & Chief Medical Officer, Vaccines (2012-2022) and also for Vaccines/Antivirals (2022 – present)

- **Leadership:** Serve as the head of the Medical Organization for Pfizer’s Vaccines and Antivirals with global strategic and portfolio investment responsibilities for Pfizer’s vaccine and antivirals portfolio for multiple assets in development and marketed.
- **Real World Evidence:** leads the Real-World Evidence Organization for all Pfizer’s portfolio including vaccines and infectious diseases. With over 150 clinical epidemiologists, clinical operations, biostatistics, data analysts, pharmacoepidemiologists and project managers, the organization is responsible for designing, conducting and analyzing data from observational, voluntaryPASS, low-interventional, pragmatic & label enhancement/expansion and hybrid RWE / RCT interventional trials across the organization end-to-end.
- **Medical Affairs:** leads the Vaccines/Antivirals medical affairs groups globally, regionally and at the country level.

- **Clinical Development & Regulatory Approvals:** Lead global strategies as a member of Pfizer's senior-level vaccines/anti-infectives governance committees to drive portfolio analysis, investment decisions and the clinical development and regulatory approvals of new vaccines/antivirals globally:
  - Comirnaty®, an mRNA-based COVID-19 vaccine co-developed with Biontech, approved and introduced globally to tackle the COVID-19 global pandemic (continuous strain changes to adapt to circulating strains)
  - Paxlovid®, a protease inhibitor licensed for the treatment of COVID-19 infected individuals at risk of hospitalization and death
  - Prevnar 20® and Prevnar 13®, a multi-valent pneumococcal conjugate vaccines, developed for the prevention of IPD, Pneumonia and AOM caused by the serotypes included in the vaccines in both infants, children and adults
  - Abrysvo® apre-fusion F protein vaccine developed against RSV associated LRTI for use both in adults and for maternal immunization to protect newborns up to six months
  - Trumenba®, a serogroup B meningococcal vaccine, in adolescents.
  - NeisVac-C™ and Nimenrix™, serogroup C and serogroups ACWY meningococcal disease vaccines respectively, in routine infant immunization, toddler and adolescent vaccination programs worldwide.
  - FSME™, Tick-borne encephalitis vaccine, in endemic areas.
  - Pembraya™, a serogroup A, B, C, Y and W-135 meningococcal vaccine for use in adolescents
  - In development: S. aureus (terminated), C. difficile, Lyme disease (in partnership with Valneva), Group B Streptococcus (GBS), RSV antiviral, multiple mRNA-based vaccines against respiratory infections. Also a large portfolio of antivirals and monoclonal antibodies against respiratory infections
- **Investment Management:** manages a complex vaccine/antivirals portfolio making decisions using valuation metrics, to inform investment decisions to the value and impact of new vaccines. Focus on internal and external investment opportunities that are aligned with Pfizer's corporate strategic approach.
- **Strategic Planning:** Drive strategic vaccines initiatives, creating dramatic improvements in operational effectiveness and efficiency. Set the vision, mission, and direction of Pfizer's vaccines medical and scientific strategic plan.
- **Regulatory Strategy:** in-depth knowledge of regulatory sciences, devise and implement diverse regulatory pathways for rapid product approvals, serving as one of the main contacts for clinical and regulatory interactions to FDA, EMA, PMDA and other regulatory authorities.
- **Market Access:** Lead the generation and dissemination of scientific and clinical evidence to external stakeholders that demonstrate the need, value and impact of vaccine immunization programs for infants, adolescents and adults, ultimately preventing hundreds of thousands of deaths and disabilities globally.
- **Policy Development:** Play a key role in creating and supporting health policies by leading and conducting research and providing scientific advice to key stakeholders.
- **Partnerships:** Forge global partnerships with key health organizations, including WHO, UNICEF, Bill & Melinda Gates Foundation, BARDA, CEPI and Vaccine Technical Committees worldwide CDC/ACIP, JCVI, and STIKO.
- **Team Leadership:** Build and manage a large team of highly qualified vaccinologists, infectious diseases physicians, clinical scientists, program managers, clinical epidemiologists and data analysts and statisticians at the global level and medical managers at the regional and country levels. A large group of RWE scientists covering all the other therapeutic areas from Pfizer

**VP and Head of Vaccines Medical Affairs in Emerging Markets (May 2010-April 2012); Executive Director, International Clinical and Scientific Affairs, Asia Pacific Wyeth Vaccines (May 2008-May 2010)**

- **Medical Strategy and Implementation:** Led the design, management and execution of all vaccine-related medical strategy/plans and studies including epidemiological, clinical studies, post-registration effectiveness and outcomes research in emerging markets.

**THE INTERNATIONAL VACCINE INSTITUTE - Seoul, South Korea**

2002-2008

**Deputy Director General, Vaccines Translational Research, and Adjunct Professor, Seoul National University, College of Medicine and School of Public Health**

- **Global Real World Evidence Research:** Oversaw a multidisciplinary vaccine-related research agenda in more than 20 countries in Asia, Latin America and Africa, including pre- and post-licensure clinical trials, epidemiological prospective and

retrospective studies, socio-behavioural and economic studies of vaccine introduction, and policy research on vaccines against cholera, typhoid fever, shigellosis, rotavirus, Japanese encephalitis, *Haemophilus influenzae b*, and *Streptococcus pneumoniae*.

- **Global Clinical Studies:** Designed, conducted, and analysed Phase 1-4 studies for live and killed oral and parenteral subunit vaccines against cholera, shigella candidates and typhoid fever in several developing countries in Asia and Africa.
- **Product Development Partnerships:** Led product development partnerships and technology transfer initiatives for diarrheal diseases and flaviviruses (JE and Dengue). Focused on Emergent Biosolutions for an oral typhoid vaccine, AVANT immunotherapeutics for live oral cholera vaccine, Biofarma, Shantha, Vabiotech, Lanzhou for Vi- and WC-based cholera vaccines.
- **Financial Management:** Identified innovative financing mechanisms to fund the vaccination programs in the developing world including long-term sustainability of vaccination programs through cross subsidization strategies in six countries. Determined appropriate investments needed to develop new vaccines to prevent infectious diseases affecting the developing world.
- **Medical and Clinical Training:** Spearheaded training activities on vaccines and clinical trials throughout Asia-Pacific equipping immunization professionals with the skills and tools to evaluate and improve access to and delivery of vaccines.
- **Grants and Fund Raising:** Awarded grants (over 150 million US\$) from the Bill and Melinda Gates foundation, Wellcome Trust, NIH and Multilateral and Overseas Development Agencies.

**THE WORLD HEALTH ORGANIZATION** - Geneva, Switzerland

1996-2002

**Head of Meningococcal Vaccines, Vaccine Research and Development/Quality Assurance and Safety of Biologicals, Department of Vaccines and Biologicals**

- **Research and Development:** as head of meningococcal vaccines R&D, accelerated the introduction of vaccines against meningococcal meningitis through leading epidemiological surveillance, clinical development and introduction activities.
  - Led the Meningitis Vaccine Project which resulted in the design, development, technology transfer, production, evaluation, and implementation of a serogroup A meningococcal conjugate vaccine for use in the Meningitis Belt countries in sub-Saharan Africa. The vaccine produced by the Serum Institute of India (Meninfrivac®) positively impacted high-risk populations of around 200 million people across 18 African countries.
- **Vaccines and Biologicals Standardization and Control:** Established global vaccines standards against respiratory encapsulated bacteria:
  - Recommendations for quality control and production for group C meningococcal conjugate vaccines.
  - Standardization and validation of IgG ELISA to measure immune responses from pneumococcal conjugate vaccines.
  - Establishment of a threshold antibody level value to infer efficacy from immunogenicity data for pneumococcal conjugate vaccines.
- **Safety:** Advanced policies and practices related to adverse events through research, knowledge management and training activities.
  - Established the Global Vaccine Safety Advisory Committee to respond to vaccine-related adverse effects allegations.
  - Established the WHO Criteria for causality of adverse events following immunization.
- **Grants:** Helped the WHO receive the largest grant ever awarded for a single vaccine (the Meningitis Vaccine Project) with funding from the Bill and Melinda Gates Foundation.
- **Product development and Partnerships:** led a 70 USM\$ product development partnership between public laboratories (CBER), Clinical Research Organizations (Synco Biotech) and developing country producers (Serum Institute of India) for the development, technology transfer, clinical evaluation, licensure and introduction of a serogroup A meningococcal vaccine and for the development, evaluation and introduction of a meningococcal group B vaccine for epidemic control in New Zealand.
- **Global Surveillance and Clinical Trials:** Led WHO groups to develop epidemiological surveillance networks in Africa. Conducted clinical trials of new candidate vaccines against meningococcal disease, accelerated regulatory pathways of new vaccines against encapsulated respiratory bacteria, and designed introduction strategies for meningococcal conjugate vaccines with Ministers of Health from Africa and Middle-Eastern countries.

**THE EUROPEAN COMMISSION**- Brussels, Belgium

1995-1996

**Scientific Officer Life Sciences and Technologies, Directorate General XII- Science, Research and Development**

- **Neurosciences and immunology lead**
- **Vaccine R&D:** Spearheaded EU vaccine R&D priorities, inter-country collaboration and exchange of research and development opportunities. Facilitated networks of animal models for vaccine development and mucosal immunization.
- **Partnerships & Funding:** Drove effective partnerships among key European partners (European Parliament, Council of Ministers, European Vaccine Manufacturers and relevant public institutions in Member States) on Vaccines R&D strategies

resulting in the creation of the *Task force of Vaccines and Viral Diseases* with a six-fold budget increase compared to previous research initiatives.

- **Social & Technological Policy Analysis:** Initiated and led a prospective analysis of the European vaccines and biologicals market, industrial competitiveness vs. Japan and the US: Opportunities for technological development and impact on EU social policies.

**OSAKA and NAGASAKI UNIVERSITIES-** - Japan

1992-1995

**Lecturer and Post-doctoral Researcher**

- Neuroimmunology of opiod drugs
- Neurological pathways to long-term memory and synaptic plasticity

## EDUCATION

**Faculty of Pharmaceutical Sciences and Medicine, Universidad Complutense de Madrid, Spain**

- **PhD, Summa Cum Laude, Departments of Physiopathology, Faculty of Pharmacy and School of Public Health, Faculty of Medicine, (1990-1992)**
- **PharmD with Honors, specialized in clinical pharmacology** *Grade: A, Number 1 in years 1988/1989, 1989/1990 (1985-1990)*

**Other University Education:**

- **Diploma in Pharmaceutical Marketing (1988-1989)**
- **Bachelor's degree in Law, Universidad Nacional de Educación a Distancia (UNED) - Madrid, Spain (2rd year)-ongoing**
- **Diploma in Japanese language and culture. Osaka University of Foreign Studies, Osaka, Japan (1992)**
- **Diploma in Contemporary British history and political thought; Cambridge University, Cambridge, United Kingdom (1987)**
- **Diploma in History of Science and XIX and XX British literature. Cambridge University, Cambridge, United Kingdom (1989)**

## LICENSES, AWARDS, AND CERTIFICATIONS

- **“Officer Cross of the Order of Civil Merit” from the King of Spain for work in vaccines and vaccination in developing countries**
- **Doctor in Science, Honoris Causa, Drew University, New Jersey, US**
- **Annual XVIII Premio COFNAVARRA recipient**
- **Post-doctoral fellowship of the Japanese Ministry of Culture - awarded to 10 Spanish PhDs from all fields (1992-1994)**
- **Post-Doctoral fellowship Japanese-German Berlin Centre - awarded to 30 European PhDs from all fields (1994-1995)**
- **International Civil Servant at the European Commission, DG XII (R&D) - achieved from 20,000 European PhD applicants.**

## EXTERNAL ROLES

**Invited Lecturer/adjunct professor appointments in Vaccinology, infectious diseases, portfolio decision-making and Public Health**

- ***Seoul National University, Schools of Medicine, Pharmacy and Biology, Seoul, South Korea***
- ***International Advanced Vaccinology Course, Fondation Merieux, Annecy, France***
- ***Columbia University, New York City, USA***
- ***Advanced Vaccinology Course, Institut Pasteur, France***
- ***School of Public Health, Escuela de Salud Publica, Madrid, Spain***
- ***Wharton School of Business, University of Pennsylvania, Philadelphia, USA***

**Ad-hoc Referee for peer-review journals:**

- ***Lancet; Lancet ID; JID; Infection and Immunity; CID; EID; JID: The Bulletin of the World Health Organization; Biologicals; Vaccine***

***Multiple interviews in International newspapers, TV programs as Pfizer spokesperson***

## LANGUAGES

- **Proficient in English, French and Japanese**
- **Spanish mother tongue**

---

**OVER 130 PUBLICATIONS AND BOOK CHAPTERS IN THE MOST RENOWNED PEER-REVIEWED JOURNALS**

---

Tartof SY, Frankland TB, Slezak JM, Puzniak L, Ackerson BK, Jodar L, McLaughlin JM. Receipt of BNT162b2 Vaccine and COVID-19 Ambulatory Visits in US Children Younger Than 5 Years. *JAMA*. 2023 Sep 15. doi: 10.1001/jama.2023.17473.

Peterson J, Drazan D, Czajka H, Maguire J, Pregaldien JL, Seppa I, Maansson R, O'Neill R, Balmer P, Jodar L, Jansen KU, Anderson AS, Perez JL, Beeslaar J. Immunogenicity and safety of a pentavalent meningococcal ABCWY vaccine in adolescents and young adults: an observer-blind, active-controlled, randomised trial. *Lancet Infect Dis*. 2023 Aug 11:S1473-3099(23)00191-3. doi: 10.1016/S1473-3099(23)00191-3.

Tartof SY, Slezak JM, Puzniak L, Hong V, Frankland TB, Xie F, Ackerson BK, Valluri SR, Jodar L, McLaughlin JM. Effectiveness and durability of BNT162b2 vaccine against hospital and emergency department admissions due to SARS-CoV-2 omicron sub-lineages BA.1 and BA.2 in a large health system in the USA: a test-negative, case-control study. *Lancet Respir Med*. 2023 Feb;11(2):176-187. doi: 10.1016/S2213-2600(22)00354-X.

Peterson J, Drazan D, Czajka H, Maguire J, Pregaldien JL, Seppa I, Maansson R, O'Neill R, Balmer P, Jodar L, Jansen KU, Anderson AS, Perez JL, Beeslaar J. Immunogenicity and safety of a pentavalent meningococcal ABCWY vaccine in adolescents and young adults: an observer-blind, active-controlled, randomised trial. *Lancet Infect Dis*. 2023 Dec;23(12):1370-1382. doi: 10.1016/S1473-3099(23)00191-3.

Lewnard JA, Hong V, Bruxvoort KJ, Grant LR, Jódar L, Cané A, Arguedas A, Pomichowski ME, Gessner BD, Tartof SY. Burden of lower respiratory tract infections preventable by adult immunization with 15- and 20-valent pneumococcal conjugate vaccines in the United States. *Clin Infect Dis*. 2023 Jun 9:ciad355. doi: 10.1093/cid/ciad355.

Simon MW, Bataille R, Caldwell NS, Gessner BD, Jodar L, Lamberth E, Peng Y, Scott DA, Lei L, Giardina PC, Gruber WC, Jansen KU, Thompson A, Watson W. Safety and immunogenicity of a multivalent pneumococcal conjugate vaccine given with 13-valent pneumococcal conjugate vaccine in healthy infants: A phase 2 randomized trial. *Hum Vaccin Immunother*. 2023 Aug;19(2):2245727. doi: 10.1080/21645515.2023.2245727.

Rudolph AE, Khan FL, Shah A, Singh TG, Wiemken TL, Puzniak LA, Jodar L, McLaughlin JM. Effectiveness of BNT162b2 BA.4/5 bivalent mRNA vaccine against symptomatic COVID-19 among immunocompetent individuals testing at a large US retail pharmacy. *J Infect Dis*. 2023 Oct 31:jiad474. doi: 10.1093/infdis/jiad474.

Hyams C, Qian G, Nava G, Challen R, Begier E, Southern J, Lahuerta M, Nguyen JL, King J, Morley A, Clout M, Maskell N, Jodar L, Oliver J, Ellsbury G, McLaughlin JM, Gessner BD, Finn A, Danon L, Dodd JW; Avon CAP Research Group. Impact of SARS-CoV-2 infective exacerbation of chronic obstructive pulmonary disease on clinical outcomes in a prospective cohort study of hospitalised adults. *J R Soc Med*. 2023 Jul 5:1410768231184162. doi: 10.1177/01410768231184162.

Tartof SY, Slezak JM, Puzniak L, Hong V, Frankland TB, Ackerson BK, Xie F, Takhar H, Ogun OA, Simmons S, Zamparo JM, Valluri SR, Jodar L, McLaughlin JM. Effectiveness of BNT162b2 BA.4/5 bivalent mRNA vaccine against a range of COVID-19 outcomes in a large health system in the USA: a test-negative case-control study. *Lancet Respir Med*. 2023 Dec;11(12):1089-1100. doi: 10.1016/S2213-2600(23)00306-5.

Ramirez J, Carrico R, Wilde A, Junkins A, Furmanek S, Chandler T, Schulz P, Hubler R, Peyrani P, Liu Q, Trivedi S, Uppal S, Kalina WV, Falsey AR, Walsh EE, Yacisin K, Jodar L, Gessner BD, Begier E. Diagnosis of Respiratory Syncytial Virus in Adults Substantially Increases When Adding Sputum, Saliva, and Serology Testing to Nasopharyngeal Swab RT-PCR. *Infect Dis Ther*. 2023 Jun;12(6):1593-1603. doi: 10.1007/s40121-023-00805-1.

Bruxvoort KJ, Fischer H, Lewnard JA, Hong VX, Pomichowski M, Grant LR, Jódar L, Gessner BD, Tartof SY. Risk of subsequent lower respiratory tract infection (LRTI) after hospitalization for COVID-19 LRTI and non-COVID-19 LRTI: a retrospective cohort study. *Pneumonia (Nathan)*. 2023 Oct 5;15(1):15. doi: 10.1186/s41479-023-00117-5.

Grant LR, Begier E, Theilacker C, Barry R, Hall-Murray C, Yan Q, Pope V, Pride MW, Jodar L, Gessner BD. Multicountry review of *Streptococcus pneumoniae* serotype distribution among adults with community-acquired pneumonia. *J Infect Dis*. 2023 Sep 4:jiad379. doi: 10.1093/infdis/jiad379.

Hyams C, Challen R, Marlow R, Nguyen J, Begier E, Southern J, King J, Morley A, Kinney J, Clout M, Oliver J, Gray S, Ellsbury G, Maskell N, Jodar L, Gessner B, McLaughlin J, Danon L, Finn A; AvonCAP Research Group. Severity of Omicron (B.1.1.529) and Delta (B.1.617.2) SARS-CoV-2 infection among hospitalised adults: A prospective cohort study in Bristol, United Kingdom. *Lancet Reg Health Eur.* 2023 Feb;25:100556. doi: 10.1016/j.lanpe.2022.100556.

Williams RL, Hyams C, Robertshaw J, Gonzalez MG, Szasz-Benczur Z, White P, Maskell NA, Finn A, Barratt SL; AvonCAP Research Group. Use of illness severity scores to predict mortality in interstitial lung disease patients hospitalised with acute respiratory deterioration. *Respir Med.* 2023 Jun;212:107220. doi: 10.1016/j.rmed.2023.107220.

Grant LR, Slack MPE, Theilacker C, Vojcic J, Dion S, Reinert RR, Jodar L, Gessner BD. Distribution of serotypes causing invasive pneumococcal disease in older adults from high-income countries and impact of pediatric and adult vaccination policies. *Vaccine.* 2023 Aug 31;41(38):5662-5669. doi: 10.1016/j.vaccine.2023.08.001.

Olsen J, Angulo FJ, Pilz A, Halsby K, Kelly P, Turunen J, Åhman H, Stark J, Jodar L. Estimated Number of Symptomatic Lyme Borreliosis Cases in Adults in Finland in 2021 Using Seroprevalence Data to Adjust the Number of Surveillance-Reported Cases: A General Framework for Accounting for Underascertainment by Public Health Surveillance. *Vector Borne Zoonotic Dis.* 2023 Apr;23(4):265-272. doi: 10.1089/vbz.2022.0051

Grant LR, Slack MPE, Theilacker C, Vojcic J, Dion S, Reinert RR, Jodar L, Gessner BD. Distribution of Serotypes Causing Invasive Pneumococcal Disease in Children From High-Income Countries and the Impact of Pediatric Pneumococcal Vaccination. *Clin Infect Dis.* 2023 Feb 8;76(3):e1062-e1070. doi: 10.1093/cid/ciac475.

Tartof SY, Slezak JM, Puzniak L, Hong V, Frankland TB, Xie F, Ackerson BK, Takhar H, Ogun OA, Simmons S, Zamparo JM, Tseng HF, Jodar L, McLaughlin JM. Analysis of mRNA COVID-19 Vaccine Uptake Among Immunocompromised Individuals in a Large US Health System. *JAMA Netw Open.* 2023 Jan 3;6(1):e2251833. doi: 10.1001/jamanetworkopen.2022.51833.

Olsen J, Angulo FJ, Pilz A, Halsby K, Kelly P, Brestrich G, Stark JH, Jodar L. Estimated number of symptomatic Lyme borreliosis cases in Germany in 2021 after adjusting for under-ascertainment. *Public Health.* 2023 Jun;219:1-9. doi: 10.1016/j.puhe.2023.03.002.

Ramirez JA, Angulo FJ, Carrico RM, Furmanek S, Oliva SP, Zamparo JM, Gonzalez E, Zhang P, Parrish LAW, Marimuthu S, Pride MW, Gray S, Matos Ferreira CS, Arnold FW, Istúriz RE, Minarovic N, Moisi JC, Jodar L. Misdiagnosis of *Clostridioides difficile* Infections by Standard-of-Care Specimen Collection and Testing among Hospitalized Adults, Louisville, Kentucky, USA, 2019-2020. *Emerg Infect Dis.* 2023 May;29(5):919-928. doi: 10.3201/eid2905.221618.

Tartof SY, Frankland TB, Puzniak L, Slezak JM, Hong V, Takhar H, Ogun OA, Simmons S, Xie F, Zamparo J, Ackerson BK, Jodar L, McLaughlin JM. BNT162b2 Against COVID-19-Associated Emergency Department and Urgent Care Visits Among Children 5-11 Years of Age: A Test Negative Design. *J Pediatric Infect Dis Soc.* 2023 Apr 18;12(3):177-179. doi: 10.1093/jpids/piad005

Lewnard JA, Bruxvoort KJ, Hong VX, Grant LR, Jódar L, Cané A, Gessner BD, Tartof SY. Effectiveness of Pneumococcal Conjugate Vaccination Against Virus-Associated Lower Respiratory Tract Infection Among Adults: A Case-Control Study. *J Infect Dis.* 2023 Feb 14;227(4):498-511. doi: 10.1093/infdis/jiac098.

Zavadska D, Freimane Z, Karelis G, Ermina I, Harper LR, Bender C, Zhang P, Angulo FJ, Erber W, Bormane A, Gutmane E, Litauniece ZA, Tihonovs J, Griskevica A, Madhava H, Jodar L. Effectiveness of tick-borne encephalitis vaccination in Latvia, 2018-2020: an observational study. *Clin Microbiol Infect.* 2023 Jul 6:S1198-743X(23)00309-9. doi: 10.1016/j.cmi.2023.06.028.

Burn L, Tran TMP, Pilz A, Vyse A, Fletcher MA, Angulo FJ, Gessner BD, Moisi JC, Jodar L, Stark JH. Incidence of Lyme Borreliosis in Europe from National Surveillance Systems (2005-2020). *Vector Borne Zoonotic Dis.* 2023 Apr;23(4):156-171. doi: 10.1089/vbz.2022.0071.

Wiemken TL, Khan F, Puzniak L, Yang W, Simmering J, Polgreen P, Nguyen JL, Jodar L, McLaughlin JM. Seasonal trends in COVID-19 cases, hospitalizations, and mortality in the United States and Europe. *Sci Rep.* 2023 Mar 8;13(1):3886. doi: 10.1038/s41598-023-31057-1.

Wiemken TL, McGrath LJ, Andersen KM, Khan F, Malhotra D, Alfred T, Nguyen JL, Puzniak L, Thoburn E, Jodar L, McLaughlin JM. Coronavirus Disease 2019 Severity and Risk of Subsequent Cardiovascular Events. *Clin Infect Dis.* 2023 Feb 8;76(3):e42-e50. doi:

10.1093/cid/ciac661.

Zavadzka D, Freimane Z, Karelis G, Ermina I, Harper LR, Bender C, Zhang P, Angulo FJ, Erber W, Bormane A, Griskevica A, Moisi JC, Jodar L. Effectiveness of Tick-borne Encephalitis Vaccines in Children, Latvia, 2018-2020. *Pediatr Infect Dis J.* 2023 Oct 1;42(10):927-931. doi: 10.1097/INF.0000000000004034. Epub 2023 Jun 29.

Dunne EM, Cilloniz C, von Mollendorf C, Lewnard J, Grant LR, Slack MPE, Jodar L, Theilacker C, Gessner BD. Pneumococcal Vaccination in Adults: What Can We Learn From Observational Studies That Evaluated PCV13 and PPV23 Effectiveness in the Same Population? *Arch Bronconeumol.* 2023 Mar;59(3):157-164. English, Spanish. doi: 10.1016/j.arbres.2022.12.015. Epub 2023 Jan 7.

Cocoros NM, Kluberg SA, Willis SJ, Forrow S, Gessner BD, Nutt CT, Cane A, Petrou N, Sury M, Rhee C, Jodar L, Mendelsohn A, Hoffman ER, Jin R, Aucott J, Pugh SJ, Stark JH. Validation of Claims-Based Algorithm for Lyme Disease, Massachusetts, USA. *Emerg Infect Dis.* 2023 Sep;29(9):1772-1779. doi: 10.3201/eid2909.221931.

Lewnard JA, McLaughlin JM, Malden D, Hong V, Puzniak L, Ackerson BK, Lewin BJ, Kim JS, Shaw SF, Takhar H, Jodar L, Tartof SY. Effectiveness of nirmatrelvir-ritonavir in preventing hospital admissions and deaths in people with COVID-19: a cohort study in a large US health-care system. *Lancet Infect Dis.* 2023 Jul;23(7):806-815. doi: 10.1016/S1473-3099(23)00118-4. Epub 2023 Mar 15.

Stark JH, Pilz A, Jodar L, Moisi JC. The Epidemiology of Lyme Borreliosis in Europe: An Updated Review on a Growing Public Health Issue. *Vector Borne Zoonotic Dis.* 2023 Apr;23(4):139-141. doi: 10.1089/vbz.2022.0068. Epub 2023 Jan 27.

Villena R, Kriz P, Tin Tin Htar M, Burman C, Findlow J, Balmer P, Jodar L. Real-world impact and effectiveness of MenACWY-TT. *Hum Vaccin Immunother.* 2023 Aug 1;19(2):2251825. doi: 10.1080/21645515.2023.2251825.

Tartof SY, Slezak JM, Puzniak L, Hong V, Xie F, Ackerson BK, Valluri SR, Jodar L, McLaughlin JM. Durability of BNT162b2 vaccine against hospital and emergency department admissions due to the omicron and delta variants in a large health system in the USA: a test-negative case-control study. *Lancet Respir Med.* 2022 Jul;10(7):689-699. doi: 10.1016/S2213-2600(22)00101-1. Epub 2022 Apr 22

Tartof SY, Slezak JM, Puzniak L, Hong V, Frankland TB, Ackerson BK, Takhar HS, Ogun OA, Simmons SR, Zamparo JM, Gray S, Valluri SR, Pan K, Jodar L, McLaughlin JM. Effectiveness of a third dose of BNT162b2 mRNA COVID-19 vaccine in a large US health system: A retrospective cohort study. *Lancet Reg Health Am.* 2022 May;9:100198. doi: 10.1016/j.lana.2022.100198. Epub 2022 Feb 14

Davies LRL, Cizmeci D, Guo W, Luedemann C, Alexander-Parrish R, Grant L, Isturiz R, Theilacker C, Jodar L, Gessner BD, Alter G. Polysaccharide and conjugate vaccines to *Streptococcus pneumoniae* generate distinct humoral responses. *Sci Transl Med.* 2022 Aug 3;14(656):eabm4065. doi: 10.1126/scitranslmed.abm4065. Epub 2022 Aug 3.

Grant LR, Slack MPE, Theilacker C, Vojcic J, Dion S, Reinert RR, Jodar L, Gessner BD. Distribution of Serotypes Causing Invasive Pneumococcal Disease in Children from High-Income Countries and the Impact of Pediatric Pneumococcal Vaccination. *Clin Infect Dis.* 2022 Jul 5:ciac475. doi: 10.1093/cid/ciac475.

Tartof SY, Frankland TB, Slezak JM, Puzniak L, Hong V, Xie F, Ackerson BK, Valluri SR, Jodar L, McLaughlin JM. Effectiveness Associated With BNT162b2 Vaccine Against Emergency Department and Urgent Care Encounters for Delta and Omicron SARS-CoV-2 Infection Among Adolescents Aged 12 to 17 Years. *JAMA Netw Open.* 2022 Aug 1;5(8):e2225162. doi: 10.1001/jamanetworkopen.2022.25162

Tateda K, Ishida J, Ito S, Gonzalez E, Yoshizumi S, Zhang P, Pride M, Gray S, Ferreira CM, Minarovic N, Angulo FJ, Moisi JC, Jodar L. Population-based incidence of hospitalized *Clostridioides difficile* infection among older adults in Ota-ku, Japan: A prospective surveillance study. *Anaerobe.* 2022 Jul 2;76:102607. doi: 10.1016/j.anaerobe.2022.102607

McLaughlin JM, Khan F, Begier E, Swerdlow DL, Jodar L, Falsey AR. Rates of Medically Attended RSV Among US Adults: A Systematic Review and Meta-analysis. *Open Forum Infect Dis.* 2022 Jun 17;9(7):ofac300. doi: 10.1093/ofid/ofac300.

McLaughlin JM, Wiemken TL, Khan F, Jodar L. US County-Level COVID-19 Vaccine Uptake and Rates of Omicron Cases and Deaths. *Open Forum Infect Dis.* 2022 Jun 17;9(7):ofac299. doi: 10.1093/ofid/ofac299

McLaughlin JM, Khan F, Pugh S, Swerdlow DL, Jodar L. County-level vaccination coverage and rates of COVID-19 cases and deaths in the United States: An ecological analysis. *Lancet Reg Health Am.* 2022 May;9:100191. doi: 10.1016/j.lana.2022.100191. Epub 2022 Jan 31

Findlow J, Borrow R, Stephens DS, Liberator P, Anderson AS, Balmer P, Jodar L. Correlates of protection for meningococcal surface protein vaccines: current approaches for the determination of breadth of coverage. *Expert Rev Vaccines.* 2022 Jun;21(6):753-769. doi: 10.1080/14760584.2022.2064850

Lewnard JA, Bruxvoort KJ, Hong VX, Grant LR, Jódar L, Cané A, Gessner BD, Tartof SY. Effectiveness of pneumococcal conjugate vaccination against virus-associated lower respiratory tract infection among adults: a case-control study. *J Infect Dis.* 2022 Mar 22:jiac098. doi: 10.1093/infdis/jiac098.

McLaughlin JM, Khan F, Schmitt HJ, Agosti Y, Jodar L, Simões EAF, Swerdlow DL. Respiratory Syncytial Virus-Associated Hospitalization Rates among US Infants: A Systematic Review and Meta-Analysis. *J Infect Dis.* 2022 Mar 15;225(6):1100-1111. doi: 10.1093/infdis/jiaa752.

Theilacker C, Fletcher MA, Jodar L, Gessner BD. PCV13 Vaccination of Adults against Pneumococcal Disease: What We Have Learned from the Community-Acquired Pneumonia Immunization Trial in Adults (CAPiTA). *Microorganisms.* 2022 Jan 8;10(1):127. doi: 10.3390/microorganisms10010127.

Tartof SY, Slezak JM, Puzniak L, Hong V, Xie F, Ackerson BK, Valluri SR, Jodar L, McLaughlin JM. Immunocompromise and durability of BNT162b2 vaccine against severe outcomes due to omicron and delta variants. *Lancet Respir Med.* 2022 Jul;10(7):e61-e62. doi: 10.1016/S2213-2600(22)00170-9. Epub 2022 May 6

Mitsi E, Reiné J, Urban BC, Solórzano C, Nikolaou E, Hyder-Wright AD, Pojar S, Howard A, Hitchins L, Glynn S, Farrar MC, Liatsikos K, Collins AM, Walker NF, Hill HC, German EL, Cheliotis KS, Byrne RL, Williams CT, Cubas-Atienzar AI, Fletcher TE, Adams ER, Draper SJ, Pulido D, Beavon R, Theilacker C, Begier E, Jodar L, Gessner BD, Ferreira DM. *Streptococcus pneumoniae* colonization associates with impaired adaptive immune responses against SARS-CoV-2. *J Clin Invest.* 2022 Apr 1;132(7):e157124. doi: 10.1172/JCI157124

Erber W, Khan F, Zavadska D, Freimane Z, Dobler G, Böhmer MM, Jodar L, Schmitt HJ. Effectiveness of TBE vaccination in southern Germany and Latvia. *Vaccine.* 2022 Jan 31;40(5):819-825. doi: 10.1016/j.vaccine.2021.12.028. Epub 2021 Dec 21

Pugh SJ, Moïsi JC, Kundi M, Santonja I, Erber W, Angulo FJ, Jodar L. Effectiveness of two doses of tick-borne encephalitis (TBE) vaccine. *J Travel Med.* 2022 Mar 21;29(2):taab193. doi: 10.1093/jtm/taab193.

Lewnard JA, Bruxvoort KJ, Fischer H, Hong VX, Grant LR, Jódar L, Gessner BD, Tartof SY. Prevention of Coronavirus Disease 2019 Among Older Adults Receiving Pneumococcal Conjugate Vaccine Suggests Interactions Between *Streptococcus pneumoniae* and Severe Acute Respiratory Syndrome Coronavirus 2 in the Respiratory Tract. *J Infect Dis.* 2022 May 16;225(10):1710-1720. doi: 10.1093/infdis/jiab128



Tartof SY, Slezak JM, Fischer H, Hong V, Ackerson BK, Ranasinghe ON, Frankland TB, Ogun OA, Zamparo JM, Gray S, Valluri SR, Pan K, Angulo FJ, Jodar L, McLaughlin JM. Effectiveness of mRNA BNT162b2 COVID-19 vaccine up to 6 months in a large integrated health system in the USA: a retrospective cohort study. *Lancet*. 2021 Oct 16;398(10309):1407-1416. doi: 10.1016/S0140-6736(21)02183-8. Epub 2021 Oct 4.

Haas EJ, Angulo FJ, McLaughlin JM, Anis E, Singer SR, Khan F, Brooks N, Smaja M, Mircus G, Pan K, Southern J, Swerdlow DL, Jodar L, Levy Y, Alroy-Preis S. Impact and effectiveness of mRNA BNT162b2 vaccine against SARS-CoV-2 infections and COVID-19 cases, hospitalisations, and deaths following a nationwide vaccination campaign in Israel: an observational study using national surveillance data. *Lancet*. 2021;397:1819-1829. doi: 10.1016/S0140-6736(21)00947-8

Gessner BD, Isturiz R, Snow V, Grant LR, Theilacker C, Jodar L. The rationale for use of clinically defined outcomes in assessing the impact of pneumococcal conjugate vaccines against pneumonia. *Expert Rev Vaccines*. 2021; 20:269-280

Isturiz R, Grant L, Gray S, Alexander-Parrish R, Jiang Q, Jodar L, Peyrani P, Ford KD, Pride MW, Self WH, Counselman F, Volturo G, Ostrosky-Zeichner L, Wunderink RG, Sherwin R, Overcash JS, File T, Ramirez. Expanded Analysis of 20 Pneumococcal Serotypes Associated With Radiographically Confirmed Community-Acquired Pneumonia in Hospitalized US Adults. *J.Clin Infect Dis*. 2021 May 13:ciab375. doi: 10.1093/cid/ciab375.

Haas EJ, McLaughlin JM, Khan F, Angulo FJ, Anis E, Lipsitch M, Singer SR, Mircus G, Brooks N, Smaja M, Pan K, Southern J, Swerdlow DL, Jodar L, Levy Y, Alroy-Preis S. Infections, hospitalisations, and deaths averted via a nationwide vaccination campaign using the Pfizer-BioNTech BNT162b2 mRNA COVID-19 vaccine in Israel: a retrospective surveillance study. *Lancet Infect Dis*. 2022 Mar;22(3):357-366. doi: 10.1016/S1473-3099(21)00566-1. Epub 2021 Sep 22

Grant LR, Slack MPE, Yan Q, Trzciński K, Barratt J, Sobczyk E, Appleby J, Cané A, Jodar L, Isturiz RE, Gessner BD. The epidemiologic and biologic basis for classifying older age as a high-risk, immunocompromising condition for pneumococcal vaccine policy. *Expert Rev Vaccines*. 2021 Jun;20(6):691-705. doi: 10.1080/14760584.2021.1921579. Epub 2021 Jul 8.

Navarro-Torné A, Curcio D, Moïsi JC, Jodar L. Burden of invasive group B Streptococcus disease in non-pregnant adults: A systematic review and meta-analysis. *PLoS One*. 2021 Sep 30;16(9):e0258030. doi: 10.1371/journal.pone.0258030. eCollection 2021

Schmitt HJ, Dobler G, Zavadská D, Freimane Z, Fousteris D, Erber W, Jodar L, Palmborg A. TBE Vaccination Breakthrough Cases- Does Age Matter? *Vaccines* 2021 Aug 21;9(8):932. doi: 10.3390/vaccines9080932

Sings HL, Gessner BD, Wasserman MD, Jodar L. Pneumococcal Conjugate Vaccine Impact on Serotype 3: A Review of Surveillance Data. *Infect Dis Ther*. 2021;10:521-539

Theilacker C, Fletcher MA, Spinardi JR, Jodar L, Gessner BD. Comparing the effect of PCV10 and PCV13 paediatric vaccination programmes. *Lancet Infect Dis*. 2021; 21:170-171.

Lewnard JA, Bruxvoort KJ, Fischer H, Hong VX, Grant LR, Jódar L, Cané A, Gessner BD, Tartof SY. Effectiveness of 13-valent pneumococcal conjugate vaccine against medically-attended lower respiratory tract infection and pneumonia among older adults. *Clin Infect Dis*. 2021 Dec 30:ciab1051. doi: 10.1093/cid/ciab1051.

Theilacker C, Jodar L, Gessner BD. Effects of 13-valent pneumococcal conjugate vaccination of adults on lower respiratory tract

infections and antibiotic use in primary care' by van Werkhoven et al. *Clin Microbiol Infect.* 2021; 27:924-925.

McLaughlin JM, Khan F, Pugh S, Angulo FJ, Schmidt HJ, Isturiz RE, Jodar L, Swerdlow DL. County-Level Predictors of COVID-19 Cases and Deaths in the United States: What Happened, and Where Do We Go from Here? *Clin Infect Dis.* 2020 doi: 10.1093/cid/ciaa1729.

Singer SR, Angulo FJ, Swerdlow DL, McLaughlin JM, Hazan I, Ginish N, Anis E, Mendelson E, Mor O, Zuckerman NS, Erster O, Southern J, Pan K, Mircus G, Lipsitch M, Haas EJ, Jodar L, Levy Y, Alroy-Preis S. Effectiveness of BNT162b2 mRNA COVID-19 vaccine against SARS-CoV-2 variant Beta (B.1.351) among persons identified through contact tracing in Israel: A prospective cohort study. *EClinicalMedicine.* 2021 Dec;42:101190. doi: 10.1016/j.eclinm.2021.101190. Epub 2021 Nov 29.

Gessner BD, Theilacker C, Méndez C, Jodar L Comment on "Vila-Córcoles et al., Clinical effectiveness of 13-valent and 23-valent pneumococcal vaccination in middle-aged and older adults: The EPIVAC cohort study, 2015-2016.". *Vaccine.* 2021 Jul 5;39(30):4032-4033. doi: 10.1016/j.vaccine.2020.11.036

Theilacker C, Vyse A, Jodar L, Gessner BD. Evaluations of the Public Health Impact of Adult Vaccination with Pneumococcal Vaccines Should Include Reductions in All-Cause Pneumonia. *Clin Infect Dis.* 2020;70:2456-2457

Glick HA, Miyazaki T, Hirano K, Gonzalez E, Jodar L, Gessner BD, Isturiz RE, Arguedas A, Kohno S, Suaya JA. One-Year Quality of Life Post-Pneumonia Diagnosis in Japanese Adults. *Clin Infect Dis.* 2020 doi: 10.1093/cid/ciaa595.

McLaughlin JM, Khan F, Schmitt HJ, Agosti Y, Jodar L, Simões EAF, Swerdlow DL. Respiratory Syncytial Virus-Associated Hospitalization Rates among US Infants: A Systematic Review and Meta-Analysis. *J Infect Dis.* 2020 jiaa752. doi: 10.1093/infdis/jiaa752.

Suaya JA, Mendes RE, Sings HL, Arguedas A, Reinert RR, Jodar L, Isturiz RE, Gessner BD. Streptococcus pneumoniae serotype distribution and antimicrobial nonsusceptibility trends among adults with pneumonia in the United States, 2009–2017. *J Infect.* 2020; 81:557-566.

Theilacker C, Jodar L, Gessner BD. 'Effects of 13-valent pneumococcal conjugate vaccination of adults on lower respiratory tract infections and antibiotic use in primary care' by van Werkhoven et al. *Clin Microbiol Infect.* 2021 Jun;27(6):924-925. doi: 10.1016/j.cmi.2020.12.015. Epub 2021 Jan 5.

Arguedas A, Trzciński K, O'Brien KL, Ferreira DM, Wyllie AL, Weinberger D, Danon L, Pelton SI, Azzari C, Hammitt LL, Sá-Leão R, Brandileone MC, Saha S, Suaya J, Isturiz R, Jodar L, Gessner BD. Upper Respiratory Tract Colonization With Streptococcus pneumoniae in Adults. *Expert Rev Vaccines.* 2020 Apr 1. doi: 10.1080/14760584.2020.1750378.

McLaughlin JM, Peyrani P, Furmanek S, Khan FL, Quinn A, Jodar L, Ramirez J, Swerdlow DL. Burden of Adults Hospitalized with Group B Streptococcal Infection. *J Infect Dis.* 2020 Mar 19. pii: jiaa110. doi: 10.1093/infdis/jiaa110.

Theilacker C, Vyse A, Jodar L, Gessner BD. Evaluations of the Public Health Impact of Adult Vaccination with Pneumococcal Vaccines Should Include Reductions in All-Cause Pneumonia. *Clin Infect Dis.* 2019 Sep 7. pii: ciz882. doi: 10.1093/cid/ciz882.

Tin Tin Htar M, Sings HL, Syrochkina M, Taysi B, Hilton B, Schmitt HJ, Gessner BD, Jodar L. The impact of pneumococcal conjugate vaccines on serotype 19A nasopharyngeal carriage. *Expert Rev Vaccines.* 2019; 18:1243-1270.

Tin Tin Htar M, van Den Biggelaar AHJ, Sings H, Ferreira G, Moffatt M, Hall-Murray C, Verstraeten T, Gessner BD, Schmitt HJ, Jodar L. The impact of routine childhood immunization with higher-valent pneumococcal conjugate vaccines on antimicrobial-

- resistant pneumococcal diseases and carriage: a systematic literature review. *Expert Rev Vaccines*. 2019; 18:1069-1089
- McLaughlin JM, Jiang Q, Gessner BD, Swerdlow DL, Sings HL, Isturiz RE, Jodar L. Pneumococcal conjugate vaccine against serotype 3 pneumococcal pneumonia in adults: A systematic review and pooled analysis. *Vaccine*. 2019; S0264-410(19)31135-1
- Gessner BD, Theilacker C, Jodar L. Rethinking results from the Japanese 23-valent pneumococcal polysaccharide vaccine randomized clinical trial. *Vaccine* 2019;37: 4853-4857
- Gessner BD, Sings HL, Jodar L. Efficacy and effectiveness of ten-valent versus 13-valent pneumococcal conjugate vaccines. *Lancet Infect Dis*. 2019:692-693
- Gessner BD, Jiang Q, Van Werkhoven CH, Sings HL, Webber C, Scott D, Gruber WC, Grobbee DE, Bonten MJM, Jodar L. A post-hoc analysis of serotype-specific vaccine efficacy of 13-valent pneumococcal conjugate vaccine against clinical community acquired pneumonia from a randomized clinical trial in the Netherlands. *Vaccine*. 2019;37: 4147-4154
- Isturiz RE, Ramirez J, Self WH, Grijalva CG, Counselman FL, Volturo G, Ostrosky-Zeichner L, Peyrani P, Wunderink RG, Sherwin R, Overcash JS, Oliva SP, File T, Wiemken TL, McLaughlin JM, Pride MW Pneumococcal epidemiology among us adults hospitalized for community-acquired pneumonia. *Vaccine*. 2019 37(25):3352-3361
- Slack M, Vyse A, Madhava H, Ellsbury G, Czudek C, Reinert R, Gessner B, Jodar L. The persistence of VTs 3, 19A and 19F in the UK adult population. *J Infect Dis*. 2019 pii: jiz189
- McLaughlin JM, Swerdlow DL, Khan F, Will O, Curry A, Snow V, Isturiz RE, Jodar L. Disparities in uptake of 13-valent pneumococcal conjugate vaccine among older adults in the United States. *Hum Vaccin Immunother*. 2019;15: 841-849
- Sings HL, De Wals P, Gessner BD, Isturiz R, Laferriere C, McLaughlin JM, Pelton S, Schmitt HJ, Suaya JA, Jodar L. Effectiveness of 13-Valent Pneumococcal Conjugate Vaccine Against Invasive Disease Caused by Serotype 3 in Children: A Systematic Review and Meta-analysis of Observational Studies. *Clin Infect Dis*. 2019; 68:2135-2143
- McLaughlin JM, Swerdlow DL, Isturiz RE, Jodar L. Decision-making for PCV in adults. *Hum Vaccin Immunother*. 2019;15(3):584-593
- Isturiz R, Sings HL, Hilton B, Arguedas A, Reinert RR, Gessner B, Jodar L. Response to Mungall et al. letter to the editor on *Streptococcus pneumoniae* serotype 19A: worldwide epidemiology. *Expert Rev Vaccines*. 2018;17: 669-671
- Gessner BD, Jiang Q, Van Werkhoven CH, Sings HL, Webber C, Scott D, Neuzil KM, O'Brien KL, Wunderink RG, Grobbee DE, Bonten MJM, Jodar L. A public health evaluation of 13-valent pneumococcal conjugate vaccine impact on adult disease outcomes from a randomized clinical trial in the Netherlands. *Vaccine*. 2019; 37:5777-5787
- McLaughlin JM, Jiang Q, Isturiz RE, Sings HL, Swerdlow DL, Gessner BD, Carrico RM, Peyrani P, Wiemken TL, Mattingly WA, Ramirez JA, Jodar L. Effectiveness of 13-Valent Pneumococcal Conjugate Vaccine Against Hospitalization for Community-Acquired Pneumonia in Older US Adults: A Test-Negative Design. *Clin Infect Dis*. 2018;67: 1498-1506
- Isturiz R, Gessner BD, Madhava H, Paradiso P, Jodar L. Reassessing the 1 + 1 pneumococcal conjugate vaccine schedule. *Lancet Infect Dis*. 2018; 18(4):382
- Suaya JA, Jiang Q, Scott DA, Gruber WC, Webber C, Schmoele-Thoma B, Hall-Murray CK, Jodar L, Isturiz RE. Post hoc analysis of the efficacy of the 13-valent pneumococcal conjugate vaccine against vaccine-type community-acquired pneumonia in at-risk older adults. *Vaccine*. 2018;36: 1477-1483
- Theilacker C, Hilton B, Jiang Q, Gessner BD, Jodar L. Comparing the Impact of 10-Valent and 13-Valent Pneumococcal Conjugate Vaccines on Invasive Pneumococcal Disease. *Clin Infect Dis*. 2018: 66(10):1641-1642
- McLaughlin JM, Swerdlow DL, Isturiz RE, Jodar L. Rethinking number-needed-to-vaccinate for pneumococcal conjugate vaccines in older adults: Current and future implications. *Vaccine*. 2017; 35:5360-5365
- Isturiz R, Sings HL, Hilton B, Arguedas A, Reinert RR, Jodar L. *Streptococcus pneumoniae* serotype 19A: worldwide epidemiology. *Expert Rev Vaccines*. 2017; 16:1007-1027

- Isturiz RE, Schmoele-Thoma B, Scott DA, Jodar L, Webber C, Sings HL, Paradiso P. Pneumococcal conjugate vaccine use in adults. *Expert Rev Vaccines*. 2016; 15(3):279-93
- Bakken D, Boyce D, Jodar L. Economic considerations for the development of global vaccines: a perspective from the Vaccine Industry. *The Vaccine Book*. Bloom and Lambert Eds. Academic Press, Elsevier. 2016; pp 467-481
- Tiffay K, Jodar L, Kieny MP, Socquet M, LaForce FM. The Evolution of the Meningitis Vaccine Project. *Clin Infect Dis*. 2015; 61 Suppl 5:S396-403
- Aguado MT, Jodar L, Granoff D, Rabinovich R, Ceccarini C, Perkin GW. From Epidemic Meningitis Vaccines for Africa to the Meningitis Vaccine Project. *Clin Infect Dis*. 2015; 61 Suppl 5:S391-5
- Dong BQ, Yang J, Wang XY, Gong J, von Seidlein L, Wang ML, Lin M, Liao HZ, Ochiai RL, Xu ZY, Jodar L, Clemens JD. Trends and disease burden of enteric fever in Guangxi province, China, 1994-2004. *Bull World Health Organ*. 2010; 88:689-96
- Anh DD, Kilgore PE, Slack MP, Nyambat B, Tho le H, Yoshida LM, Nguyen HA, Nguyen CD, Chong CY, Nguyen D, Ariyoshi K, Clemens JD, Jodar L. Surveillance of pneumococcal-associated disease among hospitalized children in Khanh Hoa Province, Vietnam. *Clin Infect Dis*. 2009; 48 Suppl 2:S57-64
- Nyambat B, Kilgore PE, Yong DE, Anh DD, Chiu CH, Shen X, Jodar L, Ng TL, Bock HL, Hausdorff WP. Survey of childhood empyema in Asia: implications for detecting the unmeasured burden of culture-negative bacterial disease. *BMC Infect Dis*. 2008; 8:90
- Ochiai RL, Acosta CJ, Danovaro-Holliday MC, Baiqing D, Bhattacharya SK, Agtini MD, Bhutta ZA, Canh do G, Ali M, Shin S, Wain J, Jodar L, Page AL, Albert MJ, Farrar J, Abu-Elyazeed R, Pang T, Galindo CM, von Seidlein L, Clemens JD and the Domi Typhoid Study Grou. A study of typhoid fever in five Asian countries: disease burden and implications for controls. *Bull World Health Organ*. 2008; 86:260-8.
- Lopez AL, Clemens JD, Deen J, Jodar L. Cholera vaccines for the developing world. *Human Vaccines* 2008; 4:165-9.
- DeRoeck D, Jodar L, Clemens JD. Putting typhoid vaccination on the global health agenda. *New England Journal of Medicine*, 2007; 357:1069-1071
- Ochiai RL, Acosta CJ, Agtini M, Bhattacharya SK, Bhutta ZA, Do CG, Dong B, Chen X, Stanton B, Kaljee L, Nyamete A, Galindo CM, von Seidlein L, DeRoeck D, Jodar L, Clemens JD. (2007) The use of typhoid vaccines in Asia: the DOMI experience. *Clin Infect Dis*. 15: 45 Suppl 1: S34-8
- Acosta CJ, Galindo CM, Ochiai RL, Danovaro-Holliday MC, Laure-Page A, Thiem VD, Jin Y, Khan MI, Sahito SM, Hamza HB, Park JK, Lee H, Bock H, Elyazeed RA, Albert MJ, Ascaso C, Robles TQ, Ali M, Ngai P, Puri MK, Koo YM, Agtini MD, Soeharno R, Bai-Qing D, Kohl D, Xu ZY, Ivanoff B, Jodar L, Pang T, Bhutta Z, Clemens JD. Implementation of good clinical practice guidelines in vaccine trials in developing countries. *Vaccine*. 2007; 12:2852-7.
- Anh DD, Kilgore PE, Kennedy WA, Nyambat B, Long HT, Jodar L, Clemens JD, Ward JI. Haemophilus influenzae type B meningitis among children in Hanoi, Vietnam: epidemiologic patterns and estimates of H. Influenzae type B disease burden. *Am J Trop Med Hyg*. 2006; 74:509-15.
- Ochiai RL, Wang X, von Seidlein L, Yang J, Bhutta ZA, Bhattacharya SK, Agtini M, Deen JL, Wain J, Kim DR, Ali M, Acosta CJ, Jodar L, Clemens JD. Salmonella paratyphi A rates, Asia. *Emerg Infect Dis*. 2005; 11:1764-6.
- Clemens JD and Jodar. Hib Vaccines for all the world's children? *Lancet* 2005; 366:101-103
- Clemens JD and Jodar L. Introducing new vaccines into developing countries: obstacles, opportunities, and challenges. *Nature Med*. 2005; 11: S12-S15
- Jodar L and Clemens JD. New approaches towards development, production and use of developing country market vaccines in developing countries. In: *The grand challenge of the future*. Kauffman and Lambert (Eds.) SK Editors, Verlag 2005; pp: 55-73

- Kilgore PE, Nyambat B and Jodar L. Appropriate immunization strategies for *Haemophilus influenzae* type B disease in Asia. *Asian–Oceanian J Pediatric Child Health* 2004; 2: 73-79
- Clemens JD and Jodar L. Translational Research to Assist Policy Decisions about Introducing New Vaccines into Developing Countries. *Journal of Health Population and Nutrition*. 2004; 22: 223-232
- Jodar L, Griffiths E, Feavers I. Scientific challenges for the quality control and production of group C meningococcal conjugate vaccines. *Vaccine*. 2004; 1047-53.
- Clements CJ, Larsen G, Jodar L. Technologies that make administration of vaccines safer. *Vaccine*. 2004; 7:2054-8
- LaForce FM, Granoff DM, Jodar L, Ceccarini C and Aguado T. The real cost of an affordable vaccine for meningococcus A. *Lancet*. 2003; 362:251
- Jodar L, Frasc C, Carlone G, Siber G, Kaythy H, Butler J, Dagan R, Goldblatt D and Cherian T. Serological criteria for evaluation and licensure of pneumococcal conjugate vaccines. *Vaccine*; 2003; 21:3265-72.
- Jodar L, LaForce FM, Ceccarini C, Aguado T and Granoff DM. Meningococcal conjugate vaccine for Africa: a model for developing new vaccines for the poorest countries. *Lancet* 2003; 361:1902-4.
- Jodar L, Feavers IM, Salisbury D, Granoff DM. Development of vaccines against meningococcal disease. *Lancet* 2002; 359:1499-508.
- Jodar L, Densen, Feavers IM. Assay parameters and methods of data analysis for the comparison of complement sources in the *Neisseria meningitidis* serogroup C serum bactericidal assay. 2002; *Biologicals* 30:323-9.
- Feavers IM, Ceccarini C, Granoff DM, Ravenscroft N, Jodar L. Recommendations for Quality Control and Production of group C meningococcal conjugate vaccines. World Health Organization; 2004; WHO Technical Review Series Vol. 924
- Jodar L, Densen, Feavers IM. Assay parameters and methods of data analysis for the comparison of complement sources in the *Neisseria meningitidis* serogroup C serum bactericidal assay. *Biologicals* 2002; 30:323-9
- Clements CJ, Aguado MT, Jodar L. Technologies to Improve Immunisation Safety. *Drug Safety*. 2001; 24:1019-1026.
- Jodar L, Duclos P, Milstien JB, Griffiths E, Aguado MT, Clements CJ. Ensuring vaccine safety in immunization programmes--a WHO perspective. *Vaccine* 2001; 19: 1594-605.
- Jodar L, Cartwright K, Feavers IM. Standardisation and validation of serological assays for the evaluation of immune responses to *Neisseria meningitidis* serogroup A and C vaccines. 2000; *Biologicals* 28:193-7
- Macrophagic myofasciitis and aluminium-containing vaccines (Jodar L and Duclos P co-authors) *Weekly Epidemiological Record*, 15 October 1999
- Global Vaccine Safety Advisory Committee (Jodar L and Duclos P co-authors), *Weekly Epidemiological Record*, 15 October 1999
- Aguado T, Jódar L, Lloyd J and Lambert PH. Injectable solid vaccines: a role in future immunization? *WHO Drug Information* 1998; 12: 68-69
- Jódar L Vacunas e inmunización en el siglo XXI: el desafío mundial. En: De la Mata Barranco I Ed. *Salud: la llave del desarrollo*, Cyan S.A., 1998; pp. 235-247
- Jódar L, Wenger J, Santamaría M, Tikhomirov, E and Mulholland K. Preventing meningococcal disease: WHO's vaccine research activities In: Nassif X, Quentin-Millet, MJ and Taha, M-K Ed. *Neisseria* 1998; pp 121-122
- Jódar L, Aguado T, Lloyd J and Lambert PH. Revolutionising immunisation. *Genetic Engineering News*, 1998; Feb 15-1998
- Jódar L, Lambert PH and Aguado T. Investigación y desarrollo de vacunas para el siglo XXI: estrategias del Programa Mundial de Vacunas e Inmunización de la OMS. En: Salleras Sanmartí LL. Ed. *Vacunaciones preventivas*. Masson S.A, 1997; pp. 695-720

Jódar L, Takahashi M and Kaneto H. FS-stress induces long-lasting facilitation mediated by cholinergic pathways. *Pharmacol. Biochem. Behav* 1996; 53: 735-740

Jódar L and Kaneto H. Synaptic plasticity: Stairway to Memory. *Jpn. J. Pharmacol.* 1995; 68: 359-387

Jódar L, Takahashi M and Kaneto H. Effects of FS, PSY and SW-stresses on the learning and memory process. Involvement of opioidergic pathways. *Jpn. J. Pharmacol.* 1995; 67:143-147

Jódar L, Takahashi M and Kaneto H. Trends in physiological role of opioids in the neuropsychoneuroendocrine immune network. *Jpn. J. Psychopharmacol.* 1994; 14: 195-214.

Jódar L. Violencia y ternura: implicaciones clínicas del cerebro interno *Anthropos (Documentos)*, 1993; pp. 33-37

Jódar L. Juan Rof Carballo, la urdimbre afectiva como constitución de la mismidad, de los estilos de vida, del enfermar y de los ámbitos de la creatividad". *Anthropos*, 1993; 141: 8-9

#### Technical Documents:

Standardized serologic assays as correlates for protective efficacy for *Neisseria meningitidis* serogroup A/C vaccines: implications for the regulatory strategy for the EVA project, WHO/QSB, Geneva, 2000

Implications for assay parameters and methods of data analysis for the comparison of complement sources in the *Neisseria meningitidis* serogroup C serum bactericidal assay, WHO/QSB, Geneva, 2000

Standardisation and Validation of immune responses with a pneumococcal IgG ELISA and data analysis for the evaluation of vaccine immunogenicity, report on an independent advisory group, WHO/QSB, 2000

Standardization and control of protein-based vaccines against serogroup B meningococcal disease. WHO and PAHO, Petropolis, Brazil, May 2000

Conjugate Vaccines against Meningococcal Disease in the African and Eastern Mediterranean Regions, the EVA project, WHO, April 2000

Progress of a phase II clinical trial of a meningococcal A/C diphtheria conjugate vaccine in Niger and future vaccination studies, Report Independent scientific advisory committee, May 1999, Fondation Mérieux, Annecy, France

"Standardisation and validation of serologic assays for the evaluation of immune responses to *Neisseria meningitidis* serogroup A/C vaccines" WHO Technical report, 8-9 March 1999, WHO/V&B/99.19

"Group B meningococcus vaccine development options for New Zealand" Technical report of the WHO the international advisory group, WHO/VRD1998