

1 A. Marisa Chun (SBN 160351)
mchun@crowell.com
2 Kristin J. Madigan (SBN 233436)
kmadigan@crowell.com
3 Suzanne E. Rode (SBN 253830)
srode@crowell.com
4 CROWELL & MORING LLP
3 Embarcadero Center, 26th Floor
5 San Francisco, California 94111
Telephone: 415.986.2800
6 Facsimile: 415.986.2827

7 Norman J. Hamill (SBN 154272)
norman.hamill@ucop.edu
8 Katharine Essick (SBN 219426)
katharine.essick@ucop.edu
9 UNIVERSITY OF CALIFORNIA
Office of General Counsel
10 1111 Franklin Street, 8th Floor
Oakland, CA 94607-5200
11 Telephone: 510.987.9800
Facsimile: 510.987.9757

12 *Attorneys for Defendants*

13 The Regents of the University of California and
Michael V. Drake
14

15 SUPERIOR COURT OF THE STATE OF CALIFORNIA

16 COUNTY OF ALAMEDA

17 CINDY KIEL, J.D., an Executive Associate
Vice Chancellor at UC Davis, MCKENNA
18 HENDRICKS, a UC Santa Barbara student,
EDGAR DE GRACIA, a UCLA student, and
19 LELAND VANDERPOEL, an employee at the
Fresno satellite extension of the UCSF Medical
20 Education Program, and FRANCES OLSEN,
Professor of Law at UCLA,

21 Plaintiff,

22 v.

23 THE REGENTS OF THE UNIVERSITY OF
24 CALIFORNIA, a Corporation, and MICHAEL
V. DRAKE, in his official capacity as President
25 of the UNIVERSITY OF CALIFORNIA,

26 Defendants.
27
28

Case No. HG20072843

Unlimited Civil Jurisdiction

ASSIGNED FOR ALL PURPOSES TO:
Hon. Richard Seabolt
Department 521

**DECLARATION OF WALTER A.
ORENSTEIN, MD, DSC, IN SUPPORT
OF DEFENDANTS' OPPOSITION TO
PLAINTIFFS' MOTION FOR
PRELIMINARY INJUNCTION**

Date: October 14, 2020
Time: 01:30 p.m.
Dept.: 521
Reservation No.: 2206283

Complaint filed: August 27, 2020
Trial: None set

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I, Walter A. Orenstein, MD, DSc, declare:

1. I provide this declaration in support of Defendants The Regents of the University of California and Michael V. Drake’s (“Defendants”) Opposition to Plaintiffs’ Motion for Preliminary Injunction. I base this declaration on my expertise as outlined below and facts within my personal knowledge, to which I could and would testify competently if called upon to do so.

2. I am a Professor of Medicine, Epidemiology, Global Health, and Pediatrics at Emory University; as well as the Associate Director of the Emory Vaccine Center and Director, Emory Vaccine Policy and Development. In addition, I am the Principal Investigator for the Center of Excellence for Influenza Research and Surveillance (Emory-UGA CEIRS), one of five national Centers of Excellence for Influenza Research and Surveillance (CEIRS) funded by National Health Institute/National Institute of Allergy and Infectious Diseases (NIH/NIAID), with a focus on better understanding pathogenesis, immune responses to vaccines and infection, and viral surveillance in animal populations.

Professional Background and Education

3. From 2008 through 2011, I was Deputy Director for Immunization Programs at the Bill & Melinda Gates Foundation. Prior to 2004, I worked for 26 years in the Immunization Program at the Centers for Disease Control and Prevention. From 1988 to 2004, I was the Director of the United States Immunization Program. I am a former Assistant Surgeon General of the U.S. Public Health Service. I have successfully developed, promoted, facilitated and expanded new vaccination strategies to enhance disease prevention.

4. My research focus has been on assessment of vaccine effectiveness in observational studies, methods to overcome vaccine hesitancy, ways to enhance uptake of recommended vaccines, and ways to facilitate polio eradication and sustain that eradication. I have participated in numerous national, regional, and institutional committees and task forces related to influenza vaccines and vaccination.

5. I have authored and co-authored numerous books, journals, and reviews. I co-edited *Plotkin’s Vaccines*, 7th edition in 2018 – the leading textbook in the field. I am currently the Chair of WHO’s Immunization and Vaccines Related Implementation Research Advisory

1 Committee (IVIR-AC). I have also authored articles regarding school vaccination mandates. I
2 served as the Chair of the National Vaccine Advisory Committee (NVAC) from 2012 to
3 2016. Between July 1, 2016 and June 30, 2018, I was the President of the National Foundation for
4 Infectious Diseases (NFID).

5 6. I received my M.D. from Albert Einstein College of Medicine in 1972 and
6 completed residencies in Pediatrics at University of California, San Francisco (1974) and at
7 Children’s Hospital of Los Angeles, University of Southern California (1978). I also completed a
8 fellowship in Infectious Diseases at Los Angeles County, University of Southern California
9 (1980), and a residency in Preventative Medicine at the Centers for Disease Control and
10 Prevention (CDC) (1982).

11 7. Attached as **Exhibit A** is a copy of my curriculum vitae.

12 8. Outside counsel for Defendants have asked me to provide my expert opinion on
13 influenza vaccinations and whether I support Defendants’ mandate that University of California
14 (“University” or “UC”) students, faculty, and staff living, learning, or working on premises at UC
15 locations should receive a flu vaccine this flu season, subject to medical exemptions and certain
16 accommodations, particularly in light of the COVID-19 pandemic that will overlap with the
17 influenza season this year.

18 9. My opinions are based on my professional training, experience, and expertise. I do
19 not offer any legal opinion, nor do I intend to interpret the legal terms of the Executive Order.

20 **Influenza and Influenza Vaccinations**

21 10. Influenza is a highly contagious viral infection characterized by respiratory
22 symptoms, such as cough and sore throat, along with constitutional symptoms, such as fever,
23 headache, myalgias, chills, fatigue, and anorexia.

24 11. Seasonal influenza epidemics are associated with substantial disease burden each
25 year worldwide in persons of all ages. Each year, an estimated 5% to 15% of persons have
26 influenza, although significant variability in rates of illness occur from year to year. (Monto AS,
27 Kioumeh F. *The Tecumseh Study of Respiratory Illness. IX. Occurrence of influenza in the*
28

1 *community*, 1966–1971. *Am J Epidemiol.* 1975;102:553-563.)¹ Most infections lead to self-
2 limited disease that does not result in healthcare visits; however, severe complications resulting in
3 hospitalization and deaths may occur, particularly in persons with certain underlying health
4 conditions and among young children and the elderly. Severe influenza complications and deaths
5 can also occur each season among persons who have no known risk factors. Each year in the
6 United States, for instance, influenza is estimated to be associated with thousands to tens of
7 thousands of deaths, and hundreds of thousands of hospitalizations. (Centers for Disease Control
8 and Prevention (CDC), *Estimates of deaths associated with seasonal influenza—United States*,
9 1976-2007. *MMWR Morb Mortal Wkly Rep.* 2010;59:1057-1062.)²

10 12. In addition, pregnant women have had higher rates of hospitalizations associated
11 with seasonal influenza, especially those with underlying health conditions. (Neuzil KM, Reed
12 GW, Mitchel EF, et al. *Impact of influenza on acute cardiopulmonary hospitalizations in*
13 *pregnant women.* *Am J Epidemiol.* 1998;148:1094-1102.)³ During the 2009 H1N1 influenza
14 pandemic, pregnant women accounted for 6% to 10% of all patients who required hospitalization
15 or died. (Louie JK, Acosta M, Jamieson DJ, et al. *Severe 2009 H1N1 influenza in pregnant and*
16 *postpartum women in California.* *N Engl J Med.* 2009;362:27-35.)⁴ Inactivated influenza
17 vaccines have been found to be comparably safe among pregnant women compared with healthy
18 adults; no special safety concerns have been identified. The CDC has weighed very carefully the
19 benefits versus risks with regards to influenza vaccines for pregnant women and concluded that
20 influenza vaccines not only protect the expectant mother, but also protect the baby in the first year
21 of life.

22 13. Asymptomatic influenza infections are likely common, and may account for
23 greater than 30% of all influenza infections, although estimates have varied considerably
24 depending on the methods used to confirm influenza infection and study design. (Leung NH, Xu
25 C, Ip DK, et al. *The fraction of influenza virus infections that are asymptomatic: a systematic*

26
27 ¹ See <https://pubmed.ncbi.nlm.nih.gov/1202957/>.

28 ² See <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5933a1.htm>.

³ See <https://pubmed.ncbi.nlm.nih.gov/9850132/>.

⁴ See <https://www.nejm.org/doi/full/10.1056/nejmoa0910444>.

1 *review and meta-analysis*. *Epidemiology*. 2015;26(6):862-872.)⁵ Asymptomatically infected
2 persons can shed detectable influenza virus and may transmit influenza to others.

3 14. Because the risk of influenza is universal, even while the risk of severe disease
4 varies among populations, vaccination policy in the United States expanded in 2010 to
5 recommend an annual influenza vaccine for all persons older than six months of age. (Centers for
6 Disease Control and Prevention (CDC). *Prevention and control of seasonal influenza with*
7 *vaccines. Recommendations of the Advisory Committee on Immunization Practices (ACIP)*, 2010.
8 *MMWR Recomm Rep*. 2010;59:1-62.)⁶ This strategy was the result of steady expansion of
9 recommendations for target groups who are especially at-risk. Significantly, the United States has
10 a particularly high percentage of persons in such target groups; for example, in 2009, an estimated
11 84% of persons in the United States were in at least one target group. This expansion of U.S.
12 influenza vaccination policy recognized the value of preventing not only severe disease and
13 deaths, but increasingly preventing milder disease and healthcare visits.

14 15. The large numbers of medical care visits generated by influenza can overwhelm
15 medical care systems, requiring hospitals and emergency services to divert patients. As a result,
16 substantial medical care and societal costs are incurred each season. Pandemic influenza has the
17 potential to cause even greater disease burden and stress on medical care systems. For instance, in
18 2009, one study found that mechanical ventilation was required by 72% of patients admitted to
19 intensive care units (ICUs), and extracorporeal membrane oxygenation was used for 7% in one
20 series. (Lum ME, McMillan AJ, Brook CW, et al. *Impact of pandemic (H1N1) 2009 influenza on*
21 *critical care capacity in Victoria*. *Med J Aust*. 2009;191:502-506.)⁷

22 16. The largest study to examine the community effects of increasing overall vaccine
23 coverage was an ecologic study that described the experience in Ontario, Canada, which
24 implemented a universal influenza vaccination program beginning in 2000. On the basis of
25 models developed from administrative and viral surveillance data, influenza-related mortality,
26 hospitalizations, Emergency Department use, and physicians' office visits decreased substantially

27 ⁵ See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4586318/>.

28 ⁶ See <https://pubmed.ncbi.nlm.nih.gov/20689501/>.

⁷ See <https://pubmed.ncbi.nlm.nih.gov/19883346/>.

1 more in Ontario after program introduction than in other provinces, with the largest reductions
2 observed in younger age groups. (Kwong JC, Stukel TA, Lim J, et al. *The effect of universal*
3 *influenza immunization on mortality and health care use*. PLoS Med. 2008;5:e211.)⁸

4 **Influenza Vaccination Mandate**

5 17. I have reviewed the original and amended Executive Orders (“Executive Order”)
6 issued by the University and understand that it requires University of California students, faculty,
7 and staff who will attend classes or work on UC premises to receive the flu vaccine this year. I
8 further understand that the Executive Order allows for individuals to decline an influenza
9 vaccination if necessary for medical reasons, or because they require a disability or religious
10 accommodation.

11 18. I support the right of the University of California to mandate vaccination for
12 influenza because the vaccine not only provokes an active immune response to provide protection
13 to individuals, but at a time when the healthcare system may be stressed because of COVID-19,
14 influenza vaccination can reduce the strain of the healthcare system so that it can deliver better
15 care to those who need it. Vaccination might also reduce transmission of influenza among
16 individuals, providing community protection. The influenza vaccine may be an important means
17 for protecting the broader community, including those most at-risk for contracting influenza.

18 19. Influenza has an R0 (“R naught”) of 2 to 2.5. This means that in a community
19 100% susceptible to influenza, one can expect that an individual infected with influenza will
20 transmit it to an average of 2 to 2.5 other people. That replication will continue if no one has been
21 vaccinated against the disease or is not already immune to it in their community. If at least 50%
22 of people in a community are immune to influenza, then the rate of transmission by an individual
23 with influenza can be expected to be reduced to an average of one person. As influenza
24 vaccination induces immunity in a community, the rate of transmission should begin to decrease.

25 20. The importance of protecting the community from influenza this 2020-21 flu
26 season is especially important given the ongoing COVID-19 pandemic. Getting vaccinated for
27 influenza, among other things, helps to prevent confusion in identifying university community

28 ⁸ See <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0050211>.

1 members who have contracted influenza versus COVID-19, due to the overlap of some
2 symptoms. Getting vaccinated for influenza also helps prevent hospitalizations and putting
3 unnecessary stress on the healthcare system. The University of California’s mandate for
4 vaccination for influenza should reduce the likelihood of a “twindemic” of influenza and COVID-
5 19, which U.S. and state public health officials anticipate may occur this flu season.

6 21. Influenza vaccines have been used since the 1940s and are a well-accepted
7 measure for protecting individuals from influenza. The Centers for Disease Control and
8 Prevention (CDC) recommends universal vaccination for individuals over six months of age. In
9 my 26 years working in the Immunization Program at the CDC, including 16 years as the Director
10 of the United States Immunization Program, I am not aware of the CDC ever misleading the
11 public on rates of efficacy or safety with respect to the influenza vaccine. Any risks associated
12 with vaccinations for influenza are outweighed by the benefit of protecting the community from
13 influenza, especially in the context of the COVID-19 pandemic.

14 22. I have reviewed some of the declarations of Plaintiffs’ witnesses and disagree with
15 a number of the opinions they have offered. For example, some of Plaintiffs’ declarants conclude
16 that the CDC’s recommendation that healthy adults take the influenza vaccine is not supported by
17 the medical literature, citing researchers who believe that there is no evidence that vaccines
18 prevent viral transmission or complications. (Gøtzsche Decl., ¶ 7). While the efficacy of the
19 influenza vaccine varies from year to year (in a good year, ranging from 40% to 60%
20 effectiveness), the influenza vaccine may be effective at reducing viral transmission and medical
21 complications from influenza infections. One of the reasons for the CDC’s recommendation that
22 healthy adults take the flu vaccine is because it not only decreases the risk that susceptible
23 individuals will contract influenza, but may also protect others and the broader community.

24 23. Some of Plaintiffs’ declarants also criticize the CDC and some of the studies cited
25 by the University of California’s Executive Order because studies examining the effects of the
26 influenza vaccine were performed with case-control studies. (Gøtzsche Decl., ¶ 12). The flu
27 vaccine is formulated each year to address that particular year’s influenza virus strains and is
28 administered to high-risk populations, such as children or the elderly, who may not be included in

1 many clinical trials. These and other considerations mean that case-control studies, observational
2 studies, and other types of studies are essential to evaluating the safety and efficacy of treatments
3 such as the influenza vaccine in certain medically vulnerable populations that are often less
4 studied.

5 24. Some of Plaintiffs' declarants also conclude that influenza vaccines do not reduce
6 flu-related hospitalizations or mortality rates. Based upon my experience, influenza vaccines do
7 reduce flu-related hospitalizations, especially with respect to hospitalizations which are
8 precipitated by more serious flu-related complications. For the past several years, the CDC has
9 estimated the burden of influenza and the impact of annual influenza vaccination in the United
10 States. The CDC finds these estimates using a model that estimates the numbers of flu illnesses,
11 medical visits, and hospitalization prevented by vaccination using season-specific data on burden
12 of disease, vaccine coverage, and vaccine effectiveness. Variations in these three inputs can
13 impact both the burden of disease and the burden averted by vaccination from season to season.
14 For example, the CDC estimates that the burden of influenza that was averted by the 2018-2019
15 seasonal influenza vaccination was 4.4 million illnesses, 2.3 million medical visits, and 3,500
16 deaths due to influenza viruses, and that vaccination prevented 14% of projected hospitalizations
17 associated with A(H1N1)pdm09 overall and 43% among children aged 6 months to 4 years. (See
18 <https://www.cdc.gov/flu/about/burden-averted/2018-2019.htm> (citing Chung JR, et al. *Effects of*
19 *Influenza Vaccination in the United States During the 2018–2019 Influenza Season*, Clinical
20 Infectious Diseases. 2020;ciz1244)⁹.)

21 25. Plaintiffs' declarant Dr. Peter Gøtzsche believes that the University of California's
22 flu vaccine policy will increase vaccine hesitancy and thus increase deaths from infections.
23 (Gøtzsche Decl., ¶ 16). However, he does not provide any evidence in support of this conclusion
24 so far as I can see.

25 26. Some of Plaintiffs' declarants (for example, Professor Andrew Noymer) believe
26 that the 2020-21 northern hemisphere influenza season will not necessarily be severe, based on
27 reports of a mild season in the southern hemisphere. I believe that other extenuating

28 ⁹ See <https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciz1244/5697292>.

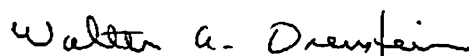
1 circumstances likely contributed to the low case rate in the southern hemisphere, such as more
2 effective measures to prevent the transmission of COVID-19, such as sheltering and physical
3 distancing, which should impact influenza transmission as well. One concern is that the non-
4 pharmaceutical interventions to decrease COVID-19 transmission in the United States seem to
5 have gone less well than in other countries, raising concerns about their impact on influenza.

6 27. It is my opinion that the University of California's policy to require a flu vaccine
7 among healthy adult members of the university community who will be studying, working, or
8 living on campus this flu season, given the COVID-19 pandemic, is supported by scientific data
9 which clearly supports the effectiveness of influenza vaccines in reducing influenza disease and
10 its medical complications and the potential to reduce viral transmission. Further, based on my
11 experience at the CDC, there is clear benefit to the administration of vaccines broadly to people
12 who are in close physical proximity to medically vulnerable populations, such as older university
13 employees, faculty members, and to patients.

14 28. As noted above, the reason for the University's mandate is not only for the
15 protection of any one individual, but to protect the community as a whole. While a younger,
16 healthy university student may be asymptomatic or only experience mild symptoms after
17 contracting influenza, he or she can still transmit the disease to other university members,
18 particularly those in higher-risk groups, such as older employees and faculty members. By way of
19 comparison, laws or even university policies prohibiting persons from ingesting alcohol and then
20 driving (i.e., "drunk driving"), may or may not protect the person who seeks to consume alcohol
21 and believes that his or her body can control the alcohol well. The primary goal of such laws and
22 policies are to protect others and the broader community.

23 I declare under penalty of perjury under the laws of the State of California that the
24 foregoing is true and correct to the best of my knowledge.

25 Executed in Atlanta, Georgia, on this 29th day of September 2020.

26 

27 Walter A. Orenstein, MD, DSc
28

EXHIBIT A

CURRICULUM VITAE

Revised: July 2020

1. Name: **Walter A. Orenstein, MD, DSc (Hon)**
2. Office Address: Emory Vaccine Center Telephone: [REDACTED] Fax: [REDACTED]
Emory University
[REDACTED]
Atlanta, GA 30322
3. E-mail Address: [REDACTED]
4. Citizenship: United States
5. Current Titles and Affiliations:
 1. Primary appointments:
7/01/11 – Present Professor of Medicine – Infectious Diseases, Emory University
 2. Joint and secondary appointments:
7/01/11 – Present Professor – Hubert Department of Global Health, Rollins School of Public Health
7/01/11 – Present Professor – Pediatrics, Infectious Diseases
6/01/13 – Present Professor - Epidemiology
 3. Administrative appointments:
7/01/11 – Present Director, Emory Program for Vaccine Policy and Development
7/01/11 – Present Associate Director, Emory Vaccine Center
 4. Affiliate Professor
4/20/10 – Present Department of Global Health, University of Washington, Seattle, WA
6. Previous Academic and Professional Appointments
 - 3/15/04 – 10/6/08 Professor of Medicine – Infectious Diseases, Emory University School of Medicine
 - 3/15/04 – 10/6/08 Professor – Hubert Department of Global Health, Rollins School of Public Health, Emory University
 - 3/15/04 – 10/6/08 Professor – Pediatrics, Infectious Diseases, Emory University School of Medicine
 - 10/7/08 – 7/1/11 Deputy Director for Immunization Programs, Vaccine Delivery Team, Global Health Program, Bill and Melinda Gates Foundation

7. Previous Administrative and/or Clinical Appointments:

a. Clinical appointments:

- 4/1/1985 – 8/31/92 Clinical Associate Professor, Department of Community Health,
Emory University School of Medicine
- 9/1/1992 – 5/31/94 Clinical Associate Professor, Community Health and Rollins
School of Public Health, Emory University
- 6/1/1994 – 3/15/04 Adjunct Clinical Professor, Department of International Health,
Rollins School of Public Health, Emory University
- 6/3/2004 – 10/6/08 Director, Strategic Planning – The Hope Clinic, Emory University
- 6/1/2004 – 10/6/08 Courtesy, Emory Healthcare (Consultant)

a. Other administrative appointments:

- 3/15/04 – 10/6/08 Director, Emory Program for Vaccine Policy and Development
- 3/15/04 – 10/6/08 Associate Director, Emory Vaccine Center
- 3/15/04 – 4/19/07 Associate Director of the Southeastern Center for Emerging
Biological Threats
- 4/19/07 – 10/6/08 Executive Director of the Southeastern Center for Emerging
Biological Threats

8. Licensures/Boards:

Licensure: Georgia Issued: 12/6/1976

9. Specialty Boards:

The American Board of Pediatrics February 1980

10. Education:

Bronx High School of Science, The Bronx, New York 1961-1964

City College of New York, New York, New York, BS 1964-1968

Albert Einstein College of Medicine, The Bronx, New York, MD 1968-1972

11. Postgraduate Training:

Internship: Pediatrics, University of California,
San Francisco, California, 1972-1973

Residency: Pediatrics, University of California,
San Francisco, California, 1973-1974

Pediatrics, Children's Hospital of Los Angeles, University of Southern
California, Los Angeles, California, 1977-1978

Fellowship: Infectious Diseases, Los Angeles County, University of Southern California Medical School, 1978-1980

Residency: Preventive Medicine, Centers for Disease Control, 1980-1982

12. Military or Government Service:

July 1974 – June 1976 EIS Officer, Division of Immunization, Center for Prevention Services, Centers for Disease Control, Atlanta, Georgia.

July 1976 – June 1977 and
June 1980 – March 1982 Medical Epidemiologist, Division of Immunization, Center for Prevention Services, Centers for Disease Control, Atlanta, Georgia.

March 1982 – June 1985 Chief, Surveillance and Investigations Section, Surveillance, Investigations, and Research Branch, Division of Immunization, Center for Prevention Services, Centers for Disease Control, Atlanta, Georgia.

July 1985 – March 1988 Chief, Surveillance, Investigations, and Research Branch, Division of Immunization, Center for Prevention Services, Centers for Disease Control, Atlanta, Georgia.

March 1988 – May 1993 Director, Division of Immunization, Center for Prevention Services, Centers for Disease Control, Atlanta, Georgia.

May 1993 – April 2004 Director, National Immunization Program, Centers for Disease Control and Prevention, Atlanta, Georgia.

January 1, 1995 Rear Admiral (LH), Assistant Surgeon General, United States Public Health Service.

October 1, 1997 –
April 30, 2004 Rear Admiral (UH), Assistant Surgeon General, United States Public Health Service.

13. Committee Memberships

a. National and International:

American Academy of Pediatrics

Member, Committee on Infectious Diseases, July 1, 2008 – July 2014
Centers for Disease Control and Prevention (CDC)

Liaison Member, National Vaccine Advisory Committee, 1988 – 2004
 Liaison member, Committee on Infectious Diseases, American Academy of Pediatrics, 1989 – 2004
 Liaison Member, Advisory Commission on Childhood Vaccines, 1989 – 1994
 Member, 317 Coalition for Vaccine Finance, April 2006 – October 2008
 External Review Panel Member, National Immunization Survey and Other Assessment Platforms, April 27, 2007
 Member, CDC Foundation’s Atlanta Advocacy Council, February 2008
 Member, Advisory Committee on Immunization Practices (ACIP) Working Group on General Recommendations, 2011 – present
 Member, Immunization Services Division Director Search Committee, Centers for Disease Control and Prevention (CDC), January 2012 – June 2012
 Chair, Global Health Chronicles, Polio Project, David J. Sencer CDC Museum, October 2015 - present
 Member, Search Committee for Director, National Center for Immunization and Respiratory Diseases (NCIRD), August 2015 – March 2016
 Member, Advisory Committee on Immunization Practices (ACIP) Working Group on Cholera, August 2015 - present

Corporation(s)

Data Safety Monitoring Board Representative – DynPort - Counter – Terrorism Vaccine Program, November 2004 – July 2008

Foundations

Every Child by Two (ECBT)
 Board Member, July 2006 – Present
 Bill & Melinda Gates Foundation
 Peer Reviewer, Grand Challenges in Global Health Childhood Vaccines, August 2004
 Reviewer, Records for Life Awards, January 2014
 International Pediatric Association (IPA), Vaccine Trust Project, 2019 - Present
 Co-Chair, Immunization Strategic Planning Advisory Committee
 Member, Program Advisory Group (PAG)

Infectious Disease Society of America (IDSA)

Immunization Working Group for Vaccine Finance Reform – September 2006 – October 2008
 Immunization Panel, Pediatric Infectious Disease Representative (PIDS) – November 2006 to October 2007
 Member, IDWeek Program Committee, 2014 – 2016

Institutions of Higher Learning

Center for Vaccine Ethics and Policy, NYU
 Member, Advisory Board, June 2012 – December 2017
 Member, Vaccine Working Group on Ethics and Policy, July 2020 - present
 The Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota
 Ebola Team B Member, November 2015 – March 2016

National Academy of Medicine (formerly: National Academies of Science, Institute of Medicine (NAS/IOM))

Reviewer, Performance Measurement – Accelerating Improvement. Committee on Redesigning Health Insurance Performance Measures, Payment, and Performance Improvement Programs, Board on Health Care Services, October 2005. Print of report December 2005 from The National Academies Press

Member, October 2007

Reviewer, Draft Report of “A National Strategy for the Elimination of Hepatitis B and C” from the Health and Medicine Division of the National Academies of Science, Engineering, and Medicine, January 2017

Member of Organizing Committee, National Academy of Medicine, Forum on Microbial Threats (NAM FMT) Virtual Workshop: The Critical Public Health Value of Vaccines: Tackling Issues of Access and Hesitancy, to be held August 17-20, 2020

National Foundation for Infectious Diseases (NFID)

Board of Directors, May 2005 – June 2020

Member, Scientific Program Committee on Annual Conference on Vaccine Research (ACVR), January 2008 – October 2008

Secretary, Board of Directors, June 2010 – June 2012

Vice President, Board of Directors, June 2012 – June 2014

Member, Scientific Program Committee, Clinical Vaccinology Course (CVC), June 2012 - present

President-Elect, Board of Directors, June 2014 – June 2016

Chair, Awards Committee, June 2015 - present

Member, Scientific Program Committee on Annual Conference on Vaccine Research (ACVR), July 2016 – present

Liaison, CDC Office of Infectious Diseases, Board of Scientific Counselors, July 2016 – present

President, Board of Directors, July 1, 2016 – June 30, 2018

Immediate Past President, Board of Directors, July 1, 2018 -June 30, 2020

National Institutes of Health (NIH)

Liaison member, NIAID-supported HIV Vaccine Trials Network (HVTN) External Advisory Board – 2003 – 2008

External Epidemiology Advisory Panel –National Institute of Allergy and Infectious Diseases, Office of the Director, Bethesda, MD, October 17, 2005

Member, *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) Biodefense Advisory Group through the Obstetric and Pediatric Pharmacology Branch, May 2008 – August 2008

National Vaccine Program Office / National Vaccine Advisory Committee (NVAC)

Member, NVAC Finance Working Group, February 2007 – October 2008

Member, Vaccine Economics Evaluation Project Steering Committee (VEEPS), June 2007 – October 2008

Member, February 2011 – February 2012

Chair, NVAC, February 2012 – July 2016

Organization(s)

American Academy of Arts and Science
 Member, Public Trust in Vaccines, April 2012 – 2014

American Association for the Advancement of Science (AAAS)
 Fellow, November 2018 - present

Partnership for Prevention
 Representative, National Commission on Prevention Priorities, 2003

GE2P2 Global Foundation, Center for Vaccine Ethics and Policy (CVEP)
 Senior Fellow, January 2018 - present

GAVI Alliance
 Member, Advance Market Commitments (AMC) Independent Assessment
 Committee (IAC), December 2007 – October 2008

Hilleman Laboratories / Wellcome Trust
 Member, Strategic Advisory Group (SAG), September 2013 – 2017

Immunization Action Coalition (IAC)
 Liaison, Advisory Board, 2008 - present

PATH (Program for Appropriate Technology in Health)
 Member, Scientific Advisory Board, PATH Vaccine Solutions, August
 2012 – October 2017

Pan American Health Organization (PAHO)
 Member and Rapporteur - Technical Advisory Group (TAG) on Vaccines
 and Immunization - 1997 - 2004

Pediatric Infectious Diseases Society (PIDS)
 Chairman, Publications Committee, 1996 – 1997
 Secretary/Treasurer, 2003 – 2005
 Fellow, 2014

Sabin Vaccine Institute
 Board of Directors, 2004 – October 2008
 Member, International Association of Immunization Managers (IAIM),
 September 2012 – 2015

Task Force for Global Health
 Member, Polio Antivirals Initiative (PAI), December 2012 – January 2014
 Chair, PAI – January 2014 – present
 Member, Board of Directors, July 2019 – present
 Data Safety Monitoring Board (DSMB), CEPI
 Member, SPEAC meta DSMB
 Representative, Oxford COVID-19

Wellcome Trust
 CIDRAP Ebola Vaccine Team B
 Member, November 2014 – October 2017
 Co-Chair, Workgroup #6, Vaccination Strategy

CIDRAP
 Participant, Influenza Vaccines Research and Development (R&D)
 Roadmap, Vaccinology, August 2020

World Health Organization (WHO)

Member and Rapporteur, Global Advisory Group, Expanded Programme on Immunization, 1991-1993

Chairman - Technical Consultative Group on the Global Eradication of Poliomyelitis, 1996 – 2004

Member, Quantitative Immunization and Vaccines Related Research Advisory Committee (QUIVER), October 2006 to October 2008, extended October 2010

Member, SAGE (Strategic Advisory Group of Experts) Working Group on Polio Vaccine, September 2008 – present

Member, Ad Hoc Expert, Hib Vaccination Schedules, October 3– 4, 2012

Member, SAGE (Strategic Advisory Group of Experts) Working Group on non-specific effects of vaccines, January 2013 – December 2014

Member, Technical Advisory Group on Maternal Immunization for WHO/PATH, March 2014 – December 2016

Chair, Midterm Review of Global Measles 2020 plan, WHO/M&RI, January 2016 – November 2017

Member, SAGE (Strategic Advisory Group of Experts) Working Group on Measles and Rubella, January 2017 – present

Member, Advisory Committee on Immunization and Vaccines-related Implementation Research (IVIR-AC), March 2018 – present

Member, IVIR-AC Measles Working Group, May 2018 – 2019

Chair, IVIR-AC, February 2019 – present

Representative, SAGE Working Group on Ebola, 2019 - present

b. Regional and State:

Georgia Pandemic Influenza Coordinating Committee – August 2006 – October 2008

Georgia Pandemic Influenza Subcommittee on Antivirals – October 2006 – October 2008

c. Institutional:

Member, Pediatric Infectious Disease Search Committee - 2004

Member, Vaccine Dinner Club Advisory Committee – September 2004 – October 2008

Co-Chair, Emory Pandemic Influenza Task Force – October 2005 – October 2007

Co-Chair, Emory Pandemic Influenza Task Force Retreat – January 14, 2006

Member, Infectious Disease Research Retreat, 2005, 2006

Member, Global Health Brainstorming Committee for Strategic Plan, 2006

Member, Creation of Science and Religion Center, Schinazi Chair in Bioethics,
Planning Committee, July 2006

Member, Search Committee, Schinazi Chair for Jewish Bioethics, July 2007 – August
2008

2007 Faculty Award for Outstanding Research Citation Award Nominee, June 2007

Executive Committee Member, Center for Global Vaccines (Emory ICGEB), August
2007 – October 2008

Member, Emory Fusion Group, Emory Office of Critical Event Preparedness and
Response (CEPAR), February 2008 – October 2008

Member, CFAR Internal Scientific Group, March 2008 – October 2008

Ad hoc Committee Member, Emory Healthcare Influenza Initiative, March-April, 2008

Ad hoc Reviewer, Emory University Research Committee Application, February 2015

Member, Emory Antibiotic Resistance Center, February 2015 – present

Member, Search Committee for William H. Foege Chair in Global Health, Emory
University, February 2015 – June 2016

Member, COVID-19 Advisory Committee, Emory Office of Critical Event Preparedness
and Response (CEPAR), March 2020 - present

14. Consultantships:

Centers for Disease Control and Prevention (CDC)

Member, Medical Advisory Board, Centers for Disease Control, October 1981 -
September 1984

Review Panel, Emerging Infections Programs External Review – Centers for
Disease Control and Prevention, Atlanta, February 16-17, 2006

Corporation(s)

Member, Global Health 2035: Mission Grand Convergence (Scientific Exchange)
Meeting, GlaxoSmithKline (GSK), Palio Series, Siena Italy, July 17-19, 2015

Co-Chair, Working Group, Top 5 vaccine attributes for developed countries

Member, Emerging infectious diseases: Planning a sustainable future – the role of
biologics (Scientific Exchange) Meeting, Palio Series, GlaxoSmithKline

(GSK), Rockville Maryland, July 7-8, 2016

Chair, Working Group, Safety & regulatory considerations

Member, Prioritizing vaccines to fight antimicrobial resistance (Scientific Exchange) Meeting, Palio Series, GlaxoSmithKline (GSK), Brussels Belgium, July 5-7, 2017

Chair, Working Group, Regulatory actions needed to accelerate AMR vaccines

Member, Sustainable Global Health (Scientific Exchange) Meeting, Palio Series, GlaxoSmithKline (GSK), Siena Italy, July 4-7, 2018

Foundation(s)

Consultant, Bill & Melinda Gates Foundation, Polio Eradication, Measles Elimination, & Routine Immunizations, October 2011 – present

Member, Surveillance Advisory Group, Bill & Melinda Gates Foundation, September 2015 – 2017

Scientific Advisor, Pertussis Infant Burden of Diseases Mini-Symposium, Bill & Melinda Gates Foundation, Emory University, Atlanta, Georgia, February 23, 2016

Member, Immunization Schedule Optimization Meeting, Bill & Melinda Gates Foundation, London, UK, June 2018

Institutions of Higher Learning

Member, National Professional Advisory Group, Rochester Center for Adolescent Immunization Research (RCAIR), Grant PI – Peter G. Szilagyi, Professor of Pediatrics, University of Rochester Medical Center – 2004-2007

Consultant, Evaluation of Parents Claiming Exemption to School Entry Immunization Requirements, CDC Grant PI – Daniel Salmon, Johns Hopkins, Baltimore – September 30, 2004 – September 30, 2006

Member, National Stakeholder Committee for Parent Preferences in Immunizing Children (PPIC) study, PCORI Pilot project PI – Tracy Lieu, Harvard, Cambridge – November 2012 – November 2015

Advisor, Performance of Rotavirus and Oral Polio Vaccines in Developing Countries (PROVIDE), Bill & Melinda Gates Foundation Award to the University of Virginia Health System, September 2011 – August 2016

National Institutes of Health

Co-Chair, External Advisory Panel on the Scientific Agenda of HIV Vaccine Trials Network (HVTN), Bethesda, Maryland, September 13-14, 2004

National Vaccine Program Office / National Vaccine Advisory Committee (NVAC)

Consultant, February 2005 – October 2008

Consultant, Revision of National Vaccine Plan, April 2007 – October 2008

Organization(s)

Pan American Health Association (PAHO)

Short term Consultant, Expanded Programme on Immunization, Measles Control, Sao Paulo, Brazil and Buenos Aires, Argentina, January 1985

Short Term Consultant, Expanded Programme on Immunization, Polio eradication and measles control, Lima, Peru, Buenos Aires, Argentina, January 1988 - February 1988

Short Term Consultant, Expanded Programme on Immunization, Technical Advisory Group Meeting, November 1988

World Health Organization

Short Term Consultant, Smallpox Eradication Program, Uttar Pradesh, India,
December 1974 - April 1975

Short Term Consultant, European Region, Investigation of Poliomyelitis,
Israel, October 1988

Temporary Advisor, Polio Research Committee (PRC) Meeting, Geneva,
Switzerland, May 6-7, 2014

Temporary Advisor, Accelerating Progress towards Measles and Rubella
Control and Elimination Meeting, Geneva, June 24-26, 2016

Peer-Reviewer, WHO IVB – Immunological Basis for Immunization – Polio
Module, March-April, 2018

15. Editorships and Editorial Boards:

American Journal of Preventive Medicine

Editorial Board, 2004-2015

Epidemiologic Reviews

Co-Editor, 2006

Co-Editor, Special Issue, 2019; Volume 41, Issue 1

Health Affairs Journal

Co-Guest Editor, May/June 2005 Vaccine Issue, Volume 24, Number 3

Clinical and Vaccine Immunology

Editorial Board Member, October 2005 – October 2008

Clinical and Diagnostic Laboratory Immunology

Editorial Board Member, January 2006 – December 2008

Current Topics in Microbiology & Immunology: Vaccines for Pandemic Influenza

Co-Editor, Springer-Verlag Berlin Heidelberg, Germany, 2009

Infectious Diseases in Children

Liaison member, Editorial Board, 2002 – 2004

Member, 2004 – present

Infectious Diseases News

Member, Editorial Board, 2009 – 2016

Journal of Infectious Diseases

Special Issue, co-Editor, Triumphs in Vaccines and Vaccinations, 2019-2020

Journal of Pediatric Infectious Diseases

Editorial Board Member, 2011 – present

National Network for Immunization Information

Editorial Board Member, 2004 – 2014

Nature Partner Journals (npj)

npj Vaccines, Editorial Board Member, 2016 – present

Pediatric Infectious Disease Journal

Editor, Centers for Disease Control Section, January 1987 – 2001

Vaccine Journal

Member – International Editorial Board - 2000 – 2008

Member, Council of 100, *Vaccine*, Elsevier, January 2013 – April 2017

Associate Editor, May 2017 – May 2020
 Editor, Special Issue, Measles campaign in Nigeria sponsored by WHO, 2020
Plotkin's Vaccines (as of 7e, previously Vaccines)
 Co-Editor, 5th edition, Elsevier, 2008
 Co-Editor, 6th edition, Elsevier, 2013
 Co-Editor, 7th edition, Elsevier, 2018
 Co-Editor, 8th edition, Elsevier, 2021 – in preparation

16. Manuscript Reviewer: (from 1980 – present)

Ad hoc Reviewer:

The American Journal of Epidemiology
*American Journal of Preventative
 Medicine*
Annals of Internal Medicine
BioMed Central
BioMed Central Infectious Diseases
BioMed Central Medicine
Clinical Infectious Diseases
Emerging Infectious Diseases
Epidemiology
Expert Review of Vaccines
*Frontiers in Public Health Services
 Research*
Global Health: Science & Practices
Global Health Communication
Global Public Health
Health Affairs
*Human Vaccines &
 Immunotherapeutics*
*Infection Control & Hospital
 Epidemiology*
Indian Pediatrics
International Journal of Epidemiology

*International Journal of Health
 Governance*
*International Journal of Preventative
 Medicine*
JAMA Pediatrics
*Journal of the American Medical
 Association*
Journal of Infectious Diseases
Journal of Pediatrics
Journal of Public Health Policy
Lancet
Lancet Fast Track
Lancet Global Health
Lancet Infectious Diseases
The Medical Letter
Trials in Vaccinology
New England Journal of Medicine
Pediatrics
Pediatric Infectious Diseases Journal
Pediatric Research
PLOS Biology
PLOS ONE
Risk Analysis
Vaccine

American Academy of Pediatrics

2004 Red Book Chapter/Manuscript Reviewer, 27th Edition
 2006 Red Book Chapter/Manuscript Reviewer, 28th Edition
 2009 Red Book Chapter/Manuscript Reviewer, 29th Edition
 2012 Red Book Chapter/Manuscript Reviewer, 30th Edition
 2015 Red Book Chapter/Manuscript Reviewer, 31st Edition

17. Honors and Awards:

Phi Beta Kappa

Alpha Omega Alpha

Centers for Disease Control and Prevention (CDC)

National Center for Immunization and Respiratory Diseases (NCIRD)

Creation of the Walter Orenstein Lifetime Scientific Achievement Award

The awardee is the NCIRD nominee for the CDC Shepard Lifetime Achievement Award (2015)

Foundation(s)

Healthy Mothers, Healthy Babies, Special Recognition Award, 1996

Every Child by Two, Immunization Partners Award, 1996

National Academy of Medicine (formerly named, Institute of Medicine)

Elected Member, September 2006, inducted October 7, 2007

Institutions of Higher Learning

Alpha Omega Alpha Distinguished Visiting Professor, the University of Tennessee, Memphis, TN, March 20, 1996

Honorary Doctor of Science, Wake Forest University, May 15, 2006

2006 Townsend Harris Medal, City College of New York, October 26, 2006

The 2008 Pfizer Visiting Professorship in Infectious Diseases, at Stony Brook University, September 2008

Keynote Speaker and Guest of Honor, 2015 Class Day graduation ceremony of The Sophie Davis School of Biomedical Education City College of New York, Friday, May 29, 2015

Lifetime Achievement Award, Albert Einstein College of Medicine, May 2020

Organization(s)

Excellence in Public Health Award, Association of State and Territorial Health Officials, 1994

1995 World Health Day Award, the American Association for World Health, April 1995

American Academy of Pediatrics Excellence in Public Service Award, 2003

Phillip R. Horne Award, National Immunization Conference, May 2004

Rotary International Award, May 2004

Georgia Chapter of the American Academy of Pediatrics – Outstanding Achievement Award 2004 – October 2004

The Dr. Charles Mérieux Award, 2007 Recipient, presented by the National Foundation for Infectious Diseases, Washington DC, April 30, 2007

Ronald McDonald House Charities Award of Excellence, Chicago, Illinois, October 2011

British Medical Association, 19th Annual Medical Book and Patient Information Awards, Highly commended for *Vaccines 6th edition*, awarded in Public Health category for both Expert Consult – Online and Print, 2013

Pediatric Infectious Diseases Society

Pediatric Infectious Diseases Society, Distinguished Service Award, 2001

Special Article: Walter A. Orenstein, MD – A Tribute from Grateful Pediatric & Public Health Communities – *Pediatr Infect Dis* 2004; 23(9):803-805

Stanley A. Plotkin Lecture in Vaccinology Awards, May 1, 2006

U.S. Public Health Service Awards

Individual Awards:

Commendation Medal, United States Public Health Service, June 1984
Meritorious Service Medal, United States Public Health Service, May 1988
Jeryl Lynn Hilleman Lecture, National Immunization Conference, CDC Foundation, May 2004
Charles C. Shepard Lifetime Scientific Achievement Award, CDC, June 2004
Special Recognition Award, 5th Immunization Registry Conference, presented by the CDC/NIP on October 18, 2004
Certificate of Outstanding Service, as Chair, National Vaccine Advisory Committee (NVAC) February 2011 to July 1, 2016 on June 7, 2016

Group Awards:

Unit Commendation Medal, December 1990
Unit Commendation Medal, April 1992
Outstanding Unit Citation, January 1993
Unit Commendation Medal, February 1993
Unit Commendation Medal, June 1997
Unit Commendation Medal, October 2000

U.S. Department of Health and Human Services

Surgeon General's Exemplary Service Medal, July 1992
The Distinguished Service Medal, Public Health Service, September 20, 2004
The Outstanding Unit Citation, Public Health Service, September 20, 2004
The Outstanding Unit Citation, Public Health Service, January 7, 2005
The Outstanding Unit Citation, Public Health Service, September 8, 2005
The Outstanding Unit Citation, Public Health Service for exemplary performance of duty, awarded December 12, 2006
The Outstanding Unit Citation, Public Health Service for the 2003-2004 Influenza Response, awarded January 2007
Certificate of Outstanding Service, as Chair, National Vaccine Advisory Committee (NVAC) February 2011 to July 1, 2016 on June 7, 2016

18. Society Memberships:

Fellow, American Academy of Pediatrics, 1980
Fellow, Infectious Diseases Society of America, 1990
Member, American Public Health Association, 1980
Member, American Epidemiological Society, 1995
Member, Society for Epidemiologic Research, 1985
Fellow, Pediatric Infectious Diseases Society, 1988
Member, Council of the Pediatric Infectious Diseases Society, 1993 - 1996
Member, the American Pediatric Society, 1995
Member, American College of Preventive Medicine, 1985
Member, Institute of Medicine of the National Academies, October 1, 2006
Fellow, American Association for the Advancement of Science, 2018

19. Organization of National or International Conferences:

a. Administrative positions:

Orenstein WA. Organizing Committee. 2nd Workshop on Strengthening the Supply of Vaccines in the US. Wyndham City Center, Washington, DC, January 24-25, 2005.

Orenstein WA, Strikas R, Schwartz B, Abramson J, Uyeki T. Organizing Committee. Universal Vaccination Against Influenza – are we ready? Crowne Plaza Hotel, Atlanta, GA, October 24-25, 2005.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Atlanta, GA, November 3-5, 2006.

Orenstein WA. Member of the Organizing Committee. AAP/AMA Immunization Summit, Chicago, IL, January 3, 2007.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Bethesda, MD, November 9-11, 2007.

Orenstein WA, Member of the Organizing Committee. Representative for NFID and PIDS. CDC International Conference on Emerging Infectious Diseases (ICEID) 2008 Scientific Program Committee, Atlanta, March 2008.

Orenstein WA, Member of the Organizing Committee. National Foundation for Infectious Diseases Eleventh Annual Conference on Vaccine Research, Bethesda, MD, May 5-8, 2008.

Compans RW, Orenstein WA, Altman JD, Jacob J, Tompkins SM, Steinhauer D. Organizing Committee for the Immunobiology and Pathogenesis of Influenza Infection Conference for IPIRC, Atlanta, GA, June 1-3, 2008.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2008.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2009.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2010.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2011, held in Atlanta, Georgia and Miami, Florida.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2012, held in Chicago, Illinois and Baltimore, Maryland.

Orenstein WA. Organizing Committee. Charting New Frontiers in Immunizations Across the Aging Continuum. National Adult Vaccination Program, the Gerontological Society of America, Washington, DC, April 25-27, 2012.

Orenstein WA. Organizing Committee. Institute of Medicine (IOM) Interest Group (IG) 02 on Global Health, Infectious Diseases, and Microbiology, IOM Annual October Meeting 2012. Appointment from December 2011 to October 31, 2012.

Orenstein WA, Farley MM, Rehm S, Novick L. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2013, held in Chicago, Illinois and Baltimore.

Orenstein WA. Organizing Committee. Institute of Medicine (IOM) Interest Group (IG) 02 on Global Health, Infectious Diseases, and Microbiology, IOM Annual October Meeting 2013. Appointment from December 2012 to October 31, 2013.

Orenstein WA, Farley MM, Rehm S, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2014, held in Seattle and Houston, 2014.

Orenstein WA, Member of the Organizing Committee. National Foundation for Infectious Diseases Eleventh Annual Conference on Vaccine Research, Bethesda, MD, April 28-30, 2014.

Orenstein WA. Organizing Committee, IDWeek 2014, Philadelphia, PA, October 8-12, 2014.

Orenstein WA. Group Leader of Poster Discussion Round on Adult and Pediatric Vaccines, IDWeek 2014, Philadelphia, PA, October 8-12, 2014.

Orenstein WA, Farley MM, Rehm S, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course for 2015, held in Denver and Bethesda, 2015.

Orenstein WA. Member, Organizing Committee (AAP Representative), ICEID 2015, Atlanta, GA August 24-26, 2015.

Orenstein WA. Organizing Committee, IDWeek 2015, San Diego, CA, October 7-11, 2015.

Orenstein WA, Farley MM, Rehm S, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Phoenix, AZ, March 18-20, 2016.

Orenstein WA. Organizing Committee, IDWeek 2016, New Orleans, LA, October 26-30, 2016.

Orenstein WA, Farley MM, Mulligan M, Pickering L, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Phoenix, AZ, March 18-20, 2016.

Orenstein WA, Member of the Organizing Committee. National Foundation for Infectious Diseases Thirteenth Annual Conference on Vaccine Research, Bethesda, MD, April 23-26 2017.

Orenstein WA, Farley MM, Mulligan M, Pickering L, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Chicago, IL, March 10-12, 2017.

Orenstein WA. Organizing Committee, Annual CEIRS Network Meeting, Atlanta, GA, July 16-19, 2017.

Orenstein WA. Member of Organizing Committee with CDC, 1918 Pandemic Flu Symposium: 100 years of Influenza Pandemics and Practice, 1918-2018. Atlanta, GA, May 7, 2018. Program available: <https://www.youtube.com/watch?v=tAiZjScSA7k>

Orenstein WA, Farley MM, Mulligan M, Pickering L, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Bethesda, MD, November 9-10, 2018.

Orenstein WA, Farley MM, Mulligan M, Pickering L, Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Bethesda, MD, November 2019.

Orenstein WA. Member of Organizing Committee, National Academy of Medicine, Forum on Microbial Threats (NAM FMT) Virtual Workshop: The Critical Public Health Value of Vaccines: Tackling Issues of Access and Hesitancy, August 17-20, 2020.

Orenstein WA, Farley MM, Mulligan M, Stinchfield P, Chen W., Dalton M. Organizing Committee. National Foundation for Infectious Diseases Clinical Vaccinology Course, Bethesda, MD, November 2020.

b. Sessions as chair:

Orenstein WA. Chairperson, Expert Review of Estimated Levels and Trends of Measles Mortality: 1999-2003. World Health Organization – Immunization, Vaccines and Biologicals – Vaccine Assessment and Monitoring. Atlanta, Georgia, January 12-13, 2005.

Orenstein WA. Chairperson, Expert Review of *Hemophilus influenzae* type B (Hib) and Pneumococcal Disease Burden Estimates. World Health Organization – Immunization, Vaccines and Biologicals – Vaccine Assessment and Monitoring. Baltimore, MD, June 21-23, 2005.

Orenstein WA. Chairperson, External Review of Burden of Disease Attributable to Rotavirus. World Health Organization, Geneva, Switzerland, November 30-December 1, 2005.

Orenstein WA. Chairperson, CDC External Peer Review of Grants IP07-001, IP07-008, IP07-013. Centers for Disease Control and Prevention, Atlanta, GA, June 15, 2007

Orenstein WA. Chairperson, Commission on the Future of Vaccines in Latin America (COFVAL), Instituto CARSO de la Salud, A.C., Mexico City, Mexico, November 28-30, 2007 and August 7-8, 2008.

Orenstein WA. Chair, Session 19 – Adult Immunizations, IDWeek 2014, Philadelphia, PA, October 8-12, 2014.

Orenstein WA. coChair, Symposium 109 – Hot Issues in Vaccine Policy, IDWeek 2015, San Diego, CA, October 7-11, 2015.

Orenstein WA. coChair, Symposium 193 – Global Immunizations, IDWeek 2015, San Diego, CA, October 7-11, 2015.

Orenstein WA. Chair, Midterm Review of Global Measles and Rubella Strategic Plan 2012-2020, Working Group meeting, Atlanta, GA, January 12-14, 2016.

Orenstein WA. Chair, Midterm Review of Global Measles and Rubella Strategic Plan 2012-2020, Working Group meeting, Atlanta, GA, May 24-26, 2016.

Orenstein WA. coChair, Symposium 22 – A Three-for: Protecting Mother, Fetus, and Infant with Immunization, IDWeek 2016, New Orleans, LA, October 20-30, 2016.

Orenstein WA. coChair, Symposium 126 – Incentivizing Vaccine Innovation, IDWeek 2016, New Orleans, LA, October 20-30, 2016.

Orenstein WA. coChair, Symposium 201 – New Vaccines/New Challenges, IDWeek 2016, New Orleans, LA, October 20-30, 2016.

Orenstein WA. Chair, Advisory Committee on Immunization and Vaccines-related Implementation Research (IVIR-AC), Virtual meeting from WHO Headquarters, Geneva, Switzerland, September 21-25, 2020.

20. Research Focus:

Improving the control, elimination, and eradication of vaccine-preventable diseases through trials of promising vaccine candidates, development of the critical database needed to formulate sound immunization policies, health services research to evaluate the best means of implementing immunization recommendations and determining barriers to successful immunization delivery.

23. Grant Support:

ACTIVE

NIH/NIAD/DMID (Contract) 04/01/2014 – 03/31/2021
HHSN272201400004C PI: Walter Orenstein
Emory / UGA CEIRS

NIAID Centers of Excellence for Influenza Research and Surveillance (contract)
The goals of the center are to determine the molecular, ecologic and/or environmental factors that influence the evolution, emergence, transmission and pathogenicity of influenza viruses, including studies on animal influenza viruses with pandemic potential; and to characterize the immune response to influenza vaccination to improve understanding of the immune correlates of protection and cross-protection.

OPP1195041 10/01/2018 – 03/01/2021
Bill and Melinda Gates Foundation PI: Matthew Freeman
SOM-ID: C&E Exemplars Research
To inform our understanding of drivers and determinants of vaccine coverage and equity.
Role: Co-Investigator

5T32AI074492-11 09/01/19-08/31/24
NIH/NIAID PI: Orenstein
Training a New Generation of Vaccinologists
The major goal of this NIH T32 grant is to train a new generation of vaccinologists to be leaders in the field.
Role: PI/Project Director

0258-A406-4609 (Ahmed: PI, Orenstein: Co-I) 9/10/2019 – 9/09/2020
MOUNT SINAI SCHOOL OF MEDICINE
Mt. Sinai - Emory Multi-institutional CIVIC

To support the design and evaluation of innovative influenza vaccine candidates and delivery platforms that aim to achieve durable, robust and broadly protective immunity against multiple strains of influenza virus.

1UM1AI148684-01 (Stephens: PI, Orenstein: Co-I) 12/05/2019 – 11/30/2026
NIH NIAID
Leadership Group for the Infectious Diseases Clinical Research Consortium (IDCRC-LG)
The emphasis (and strength) of the IDCRC-LG is to facilitate, plan and help implement clinical research for respiratory and enteric infections, malaria/tropical diseases, and sexually transmitted infections (STIs), and to respond to emerging infectious diseases (EID).

1 U01IP001117-01-00 (Ray: PI, Orenstein: Co-I) 8/01/2019 – 7/31/2022
CENTERS FOR DISEASE CONTROL
GIVEASHOT - Georgia Initiative to Vaccinate during Admission or Short Stay Visits
An experienced team of clinicians, information technology experts, public health leaders, and communications 4 specialists are proposing Project GIVEASHOT - Georgia Initiative to Vaccinate during Admission or Short Stay Visits.

Yale University (Omer PI) 08/01/2019-07/31/2022
AFIX-OB: A Customizable Quality Improvement Intervention to Increase Maternal Immunization Uptake
We will conduct a cluster-randomized trial to evaluate the impact of the AFIX-OB model on maternal influenza and Tetanus, diphtheria and pertussis (Tdap) vaccine uptake

PENDING

N/A

INACTIVE

Bill & Melinda Gates Foundation 02/06/2014 – 12/31/2019
OPP1092014 PI: Saad Omer
Efficacy and Immunogenicity of Tdap Immunization of Pregnant Women for Preventing Pertussis in Early Infancy
Role: Co-Investigator

NIH 11/05/2014 – 10/31/2019
1R01-AI10482-01A1 PI: Saad Omer
A study to develop and evaluate an intervention to improve vaccination coverage for pregnant women and their children.
Role: Co-Investigator

Task for Global Health (CDC prime) 09/30/2017 – 11/29/2018
Subcontract Emory PI: Orenstein
GVAP 2.0
Continued assistance in determining reasons for the global community being unable to meet

the midterm milestones for the Global Vaccine Action Plan (GVAP) utilizing country based surveys. Data to be used in the planning for the final GVAP report and insight for planning for the next edition of the plan.

Task for Global Health 01/01/2017 – 09/29/2017
Subcontract Emory PI: Orenstein
GVAP Coalition
Assist in determining the reasons for the global community being unable to meet the midterm milestones for the Global Vaccine Action Plan (GVAP).

Task Force for Global Health (Gates Foundation) 06/01/2013 – 12/31/2017
Subcontract Emory PI: Orenstein
IPV Introduction Support to the Immunization Management Group (IMG) of the World Health Organization (WHO)
The IMG-ST (Task Force/Emory) will serve as the Secretariat to the IMG with the purpose of implementation of IPV use around the globe by 2015.

NIH 03/01/2014 – 02/26/2017
1R01-AI110474-01 PI: Michael Haber
Study Designs for Estimating the Effectiveness of Vaccination Against Influenza
The study will look at evaluating bias and precision of observational study designs, develop new study designs and utilize a stochastic agent-based simulation model to achieve these goals
Role: Co-Investigator

NIH Fogarty International Center 01/01/2013 – 12/31/2016
AGA KHAN UNIVERSITY (Anita Ziadi) PI: Walter A. Orenstein
Global Infectious Disease Research Training Program
Description: Train pre- & post-doctoral fellows in Pakistan.

WHO Reference: 2013/3153525-0 05/01/2013-04/30/2015
Contract PI: Murali Kaja
Immune Mechanisms of Long-term Immunity Induced by IPV
To test the duration of immunity and the number of doses needed to achieve and sustain immunity induced by IPV.
Role: Co-Investigator

NIH HHSN266200700006C 03/30/07 - 03/31/14
NIH/NIAID/DMID (old PI: Richard Compans) PI: Walter A. Orenstein
NIAID Centers of Excellence for Influenza Research and Surveillance (contract)
The goals of the Influenza Pathogenesis and Immunology Research Center (IPIRC) are to determine the molecular, ecologic and/or environmental factors that influence the evolution, emergence, transmission and pathogenicity of influenza viruses, including studies on animal influenza viruses with pandemic potential; and to characterize the immune response to influenza vaccination to improve understanding of the immune correlates of protection and

cross-protection.
Role: Principal Investigator

200-2002-00732 10/01/2010 - 09/30/2012
Kaiser Foundation Health Plan of Georgia, Inc. PI: Saad B. Omer
Vaccine Safety Datalink (VSD)
Centers for Disease Control and Prevention/America's Health Insurance Plans
Description: The purpose of this project is to conduct surveillance and follow-up studies of H1N1 vaccine safety in a large and diverse population and other related vaccine safety issues.
Role: Co-investigator

1 P20 RR020735-01 09/28/04-7/31/09 3PM
National Center for Research Resources \$1,182,207 (no cost extension granted)
PI: Walter A. Orenstein (as of 6/06) Previous PI: David S. Stephens, MD
Exploratory Center for Vaccinology Research
The major goals of the application are to develop a comprehensive program to better integrate new quantitative methodologies into Vaccinology and to engage multidisciplinary science in solving significant and complex problems in vaccine development, safety and adverse events, production and supply, acceptance and use.

1 U19 AI61728-01 9/2/04 - 8/31/09 2.34PM
NIH/NIAID \$4,133,290
PI: Mark Feinberg, MD (Orenstein Co-Investigator)
Optimizing the Immunogenicity of MVA-Based AIDS Vaccine
To work with MVA based AIDS vaccines making them more immunogenic, develop vaccine regimens that are simpler but more potent with a rapid developmental timeline following human volunteers into Phase I clinical trials.

1 U19 057266 9/30/03 - 3/31/08
NIH/NIAID \$1,061,826 CoreB 0.60PM
PI: Rafi Ahmed, PhD (Orenstein Co-Investigator)
Vaccine induced immunity in the young and aged – there is a clinical core (Core B)
The major goal of this core is to facilitate the design of translation research studies. Assuring that all collaborating Center investigators a highly interactive and effect bridge is established between basic and clinical research activities with a focus that studies are conducted according to the highest standards and regulations for safe and ethical human subject research.

Novartis 03/01/07-09/30/08 1.20PM
PI: Walter Orenstein \$200,000
Phase II: Influenza Immunization Among Health Care Workers: Policies, Practices and Intervention
This project will be looking at the healthcare worker and their beliefs and policies regarding influenza vaccination.

HHS N266800700006C 3/30/07 – 3/31/2014 1.20PM
NIH/NIAID/DMID \$40,586,199 PI: Richard Compans
(Orenstein Co-Investigator)
NIAID Centers of Excellence for Influenza Research and Surveillance

5 U38TP 423095-04 9/1/03-8/31/09 0.60PM
HHS/CDC \$1,287,564
PI: Walter Orenstein (as of 4/19/07) Old PI: Jeffrey Koplan
Bioterrorism & Disaster Preparedness Training
The mission of the Southeastern Center for Emerging Biologic Threats (SECEBT) is to combat the threat of emerging and reemerging biologic agents through a regional collaborative partnership.

HHS/CDC 09/01/2007-08/31/2011 1.20PM
RFA-CD-07-005 1,307,360.00
PI: Walter Orenstein
Improving Public Health Practice through Translation Research (R18)
Delivering Influenza Vaccine to Adolescents - an evaluation of methods for achieving high immunization rates and promoting the use of preventive health services

Merck 10/1/07 – 09/30/08 1.20PM
PI: Walter Orenstein \$240,000
Persistence of humoral and cellular immune responses following age-appropriate vaccination with the MMR vaccine
With recent mumps outbreak in 2006, looking at the immune response to MMR in the college population

Protocol # MI-CP111 8/15/04-12/1/05 1.20PM
Medimmune, Inc. \$307,000
PI: Harry Keyserling, MD (Orenstein Co-Investigator)
A randomized, double-blind trial to assess the safety and relative efficacy of CAIV-T against inactivated influenza vaccine in children 6-59 months of age

Chiron Foundation 06/01/05-07/31/07 0.60PM
PI: Walter Orenstein 84,943 No cost extension
Influenza Immunization Among Health Care Workers: Policies, Practices and Intervention
This project will be looking at the healthcare worker and their beliefs and policies regarding influenza vaccination.

5 P30 AI050409-06S2 (Curran) 9/30/04 – 7/31/07 1.20PM
NIH \$307,029
(Orenstein Co-Investigator)
Infant Immunizations to Reduce Pneumonia in HIV+ Women

The major goal of this project is to determine whether pneumococcal conjugate vaccination of infants will reduce the burden of pneumococcal disease in HIV-positive women.

24. Formal Teaching:

1. EPIDEMIOLOGY IN ACTION: Immunizable Diseases - November 9, 2000, Rollins School of Public Health, Emory University, Atlanta Georgia
2. IH591B/EPI 591V: Vaccines and Immunization – Making Vaccine Policy – October 3, 2003, Rollins School of Public Health, Emory University, Atlanta, Georgia
3. IH591B/EPI 591V: Vaccines and Immunization – Making Vaccine Policy – October 8, 2004, Rollins School of Public Health, Emory University, Atlanta, Georgia
4. IH591B/EPI 591V: Models for Vaccine Delivery in Developed Countries – November 5, 2004, Rollins School of Public Health, Emory University, Atlanta, Georgia
5. EPIDEMIOLOGY IN ACTION: Immunizable Diseases - November 18, 2004, Rollins School of Public Health, Emory University, Atlanta Georgia
6. Mini Residency Program: University of Puerto Rico, Emory Center of Public Health Preparedness, Vaccine Development Issues, January 11, 2005, Rollins School of Public Health, Emory University, Atlanta, Georgia
7. EPI 562/IH 562: Emerging Infectious Diseases – Vaccine Issues – February 17, 2005, Rollins School of Public Health, Emory University, Atlanta, Georgia
8. Humphrey Fellows – March 28, 2005 – Making Vaccine Policy, Rollins School of Public Health, Emory University, Atlanta, Georgia
9. EPIDEMIOLOGY IN ACTION: Immunizable Diseases – April 28, 2005, Rollins School of Public Health, Emory University, Atlanta, Georgia
10. IH591B/EPI 591V: Epidemiology and Vaccine Preventable Diseases – October 7, 2005, Rollins School of Public Health, Emory University, Atlanta, Georgia
11. EPIDEMIOLOGY IN ACTION: Epidemiology and Vaccine Preventable Diseases – November 8, 2005, Rollins School of Public Health, Emory University, Atlanta, Georgia
12. Introduction of Public Health: Insights from 26 years in Immunization. November 21, 2005, Mount Sinai School of Public Health, New York, New York
12. Infectious Disease Fellows Didactic Conference – Measles, Mumps and Rubella, December 8, 2005, Rita Ann Rollins Room, Rollins School of Public Health, Emory University, Atlanta, Georgia

13. Infectious Disease Fellows Didactic Conference - Preventing Influenza Through Vaccination – Challenges Today, Hopes for the Future, December 15, 2005, Rita Ann Rollins Room, Rollins School of Public Health, Emory University, Atlanta, Georgia
14. Vaccine Policy Issues at Johns Hopkins School of Public Health – Making Vaccine Policy. February 7, 2006, Baltimore, Maryland
15. GH511 International Infectious Diseases Course - Vaccine Preventable Diseases: Overview and Approach, February 15, 2006. Rollins School of Public Health, Emory University, Atlanta, Georgia
16. International Course in Applied Epidemiology - Immunizable Disease, October 3, 2006. Rollins School of Public Health, Emory University, Atlanta, Georgia
17. GH511 International Infectious Diseases Course - Vaccine Preventable Diseases: Overview and Approach, March 28, 2007. Rollins School of Public Health, Emory University, Atlanta, Georgia
18. Vaccine Policy Issues at Johns Hopkins School of Public Health – The Role of Measles Elimination in Development of a National Immunization Program. February 13, 2007, Baltimore, Maryland
19. BIOS 524: Analytical Methods in Infectious Diseases Course - Hot Issues and Controversies in Immunization, April 5, 2007. Rollins School of Public Health, Emory University, Atlanta, Georgia
20. Prologue I – Threats to Human Health – Pandemics, August 14, 2007, Emory School of Medicine, First year medical students, Atlanta, Georgia
21. Vaccine Mandates: Benefits and Risks. Rutgers University MBA Class via videoconference (Dr. Michael Santoro), October 9, 2007
22. International Course in Applied Epidemiology - Immunizable Diseases, October 10, 2007. Rollins School of Public Health, Emory University, Atlanta, Georgia
23. GH566/EPI566: Vaccines and Immunization. Models for Vaccine Delivery in Developed Countries – October 12, 2007. Rollins School of Public Health, Emory University, Atlanta, Georgia
24. CDC’s China EPI Course, Post-licensure Vaccine Safety Monitoring. Georgian Terrace, October 19, 2007, Atlanta, Georgia
25. Introduction of Public Health: Insights from 26 Years in Immunization at CDC. Mt. Sinai School of Public Health, November 5, 2007, New York, New York