Bibliography

Chapter 2

National Advisory Board for Biosecurity (2015) Framework for Conducting Risk and Benefit Assessment of Gain-of-Function Research.

Buhnerkempe, MG et al, "Mapping influenza transmission in the ferret model to transmission in humans" *eLife*, 2015, e07969.

Chapter 3

Vesely et al (1981) Fault Tree Handbook (NUREG-0492), U.S. Nuclear Regulatory Commission.

Center for Chemical Process Safety (2008) Guidelines for Hazard Evaluation Procedures.

Chapter 4

Abdel-Moneim AS (2014) Middle East respiratory syndrome coronavirus (MERS-CoV): evidence and speculations. Arch Virol 159: 1575-1584

Alford RH et al (1966) Human influenza resulting from aerosol inhalation. Experimental Biology and Medicine 122: 800-804

Armstrong C, Hopkins R (1921) An epidemiological study of the 1920 epidemic of influenza in an isolated rural community. Public Health Reports (1896-1970): 1671-1702

Assiri A et al (2013a) Epidemiological, demographic, and clinical characteristics of 47 cases of Middle East respiratory syndrome coronavirus disease from Saudi Arabia: a descriptive study. The Lancet Infectious diseases 13: 752-761

Assiri A et al (2013b) Hospital outbreak of Middle East respiratory syndrome coronavirus. N Engl J Med 369: 407-416

Bouvier NM, Palese P (2008b) The biology of influenza viruses. Vaccine 26, Supplement 4: D49-D53

Burnet F, Foley M (1940) The Results of Intranasal Inoculation of Modified and Unmodified Influenza Virus Strains in Human Volunteers. Medical Journal of Australia 2: 655-659

Cao B et al (2009) Clinical features of the initial cases of 2009 pandemic influenza A (H1N1) virus infection in China. New England Journal of Medicine 361: 2507-2517

Carrat F, Flahault A (2007) Influenza vaccine: the challenge of antigenic drift. Vaccine 25: 6852-6862

Carrat F et al (2008) Time lines of infection and disease in human influenza: a review of volunteer challenge studies. American journal of epidemiology 167: 775-785

Causey D, Edwards SV (2008) Ecology of avian influenza virus in birds. J Infect Dis 197 Suppl 1: S29-33

Centers for Disease Control and Prevention (2004) Basic Information about SARS Fact Sheet

Centers for Disease Control and Prevention. Flu Symptoms & Severity. Retrieved from http://www.cdc.gov/flu/about/disease/symptoms.htm. Last Update September 2014. Accessed May 2014.

Centers for Disease Control and Prevention. Types of Influenza Viruses. http://www.cdc.gov/flu/about/viruses/types.htm. Last Update 2014. Accessed May 2015.

Cheng PK et al (2004) Viral shedding patterns of coronavirus in patients with probable severe acute respiratory syndrome. Lancet 363: 1699-1700

Christian MD et al (2004) Severe acute respiratory syndrome. Clin Infect Dis 38: 1420-1427

Coleman CM, Frieman MB (2013) Emergence of the Middle East respiratory syndrome coronavirus. PLoS Pathog 9: e1003595

Cori A et al (2009) Temporal variability and social heterogeneity in disease transmission: the case of SARS in Hong Kong. PLoS computational biology 5: e1000471

Couch RB et al (1971) Correlated studies of a recombinant influenza-virus vaccine. III. Protection against experimental influenza in man. Journal of Infectious Diseases 124: 473-480

Cowling BJ et al (2015) Preliminary epidemiologic assessment of MERS-CoV outbreak in South Korea, May–June 2015. Euro surveillance: bulletin Europeen sur les maladies transmissibles = European communicable disease bulletin 20: 21163

Cox NJ, Subbarao K (1999) Influenza. The Lancet 354: 1277-1282

Donnelly CA et al (2003) Epidemiological determinants of spread of causal agent of severe acute respiratory syndrome in Hong Kong. Lancet 361: 1761-1766

Doyle WJ et al (1998) Effect of rimantadine treatment on clinical manifestations and otologic complications in adults experimentally infected with influenza A (H1N1) virus. J Infect Dis 177: 1260-1265

Dudas G, Rambaut A (2015) MERS-CoV recombination: implications about the reservoir and potential for adaptation. bioRxiv

European Centre for Disease Prevention and Control (2015) Severe respiratory disease associated with Middle East respiratory syndrome coronavirus (MERS-CoV). Rapid Risk Assessment 20th update: 1-15

Ghani A et al (2009) The Early Transmission Dynamics of H1N1pdm Influenza in the United Kingdom. PLoS currents 1: RRN1130

Graham RL, Baric RS (2010) Recombination, reservoirs, and the modular spike: mechanisms of coronavirus cross-species transmission. Journal of virology 84: 3134-3146

Hilgenfeld R, Peiris M (2013) From SARS to MERS: 10 years of research on highly pathogenic human coronaviruses. Antiviral Res 100: 286-295

Hsu LY et al (2003) Severe acute respiratory syndrome (SARS) in Singapore: clinical features of index patient and initial contacts. Emerg Infect Dis 9: 713-717

Hussain HY (2014) Incidence and Mortality Rate of "Middle East Respiratory Syndrome"-Corona Virus (MERS-Cov), Threatens and Opportunities. J Mycobac Dis 5.

Isakbaeva ET et al (2004) SARS-associated coronavirus transmission, United States. Emerg Infect Dis 10: 225-231

Kopecky-Bromberg SA et al (2007) Severe acute respiratory syndrome coronavirus open reading frame (ORF) 3b, ORF 6, and nucleocapsid proteins function as interferon antagonists. Ibid. 81: 548-557

Lau LL et al (2010) Viral shedding and clinical illness in naturally acquired influenza virus infections. Journal of Infectious Diseases 201: 1509-1516

Le Mercier P (2010) Influenza virus A. SIB Swiss Institute of Bioinformatics, ViralZone.

Lessler J et al (2009) Incubation periods of acute respiratory viral infections: a systematic review. The Lancet infectious diseases 9: 291-300

Leung GM et al (2004) The epidemiology of severe acute respiratory syndrome in the 2003 Hong Kong epidemic: an analysis of all 1755 patients. Ann Intern Med 141: 662-673

Li F (2013) Receptor recognition and cross-species infections of SARS coronavirus. Antiviral Res 100: 246-254

Li F (2015) Receptor recognition mechanisms of coronaviruses: a decade of structural studies. J Virol 89: 1954-1964

Li H, Wang SX (2010) Clinical features of 2009 pandemic influenza A (H1N1) virus infection in chronic hemodialysis patients. Blood Purif 30: 172-177

Li W et al (2006) Animal origins of the severe acute respiratory syndrome coronavirus: insight from ACE2-S-protein interactions. J Virol 80: 4211-4219

Loeb M et al (2012) Longitudinal study of influenza molecular viral shedding in Hutterite communities. Journal of Infectious Diseases 206: 1078-1084

Macdonald P, Lyth JC (1918) INCUBATION PERIOD OF INFLUENZA. Br Med J 2: 488

Mair CM et al (2014) Receptor binding and pH stability — How influenza A virus hemagglutinin affects host-specific virus infection. Biochimica et Biophysica Acta (BBA) - Biomembranes 1838: 1153-1168

McCandless D, Hollowood E. Influ-Venn-Za. Who can catch which flu? http://www.informationisbeautiful.net/visualizations/which-flu-virus/. Last Update April 2013. Accessed October 2015.

Medina RA, Garcia-Sastre A (2011) Influenza A viruses: new research developments. Nature reviews Microbiology 9: 590-603

Meltzer MI (2004) Multiple contact dates and SARS incubation periods. Emerg Infect Dis 10: 207-209

Memish ZA et al (2014) Middle East respiratory syndrome coronavirus (MERS-CoV) viral shedding in the respiratory tract: an observational analysis with infection control implications. Int J Infect Dis 29: 307-308

Moser MR et al (1979) An outbreak of influenza aboard a commercial airliner. American journal of epidemiology 110: 1-6

National Institute of Allergy and Infectious Diseases. (2011) Pandemic Flu History. Department of Health & Human Services, Washington, DC.

Papenburg J et al (2010) Household transmission of the 2009 pandemic A/H1N1 influenza virus: elevated laboratory-confirmed secondary attack rates and evidence of asymptomatic infections. Clinical Infectious Diseases 51: 1033-1041

Park HY et al (2015) Epidemiological investigation of MERS-CoV spread in a single hospital in South Korea, May to June 2015. Euro surveillance: bulletin Europeen sur les maladies transmissibles = European communicable disease bulletin 20: 1-6

Parvin JD et al (1986b) Measurement of the mutation rates of animal viruses: influenza A virus and poliovirus type 1. Journal of virology 59: 377-383

Peck KM et al (2014) Coronavirus Host Range Expansion and Middle East Respiratory Syndrome Coronavirus Emergence: Biochemical Mechanisms and Evolutionary Perspectives. Annual Review of Virology

Peiris JS et al (2003) Clinical progression and viral load in a community outbreak of coronavirus-associated SARS pneumonia: a prospective study. Ibid. 361: 1767-1772

Penttinen PM et al (2013) Taking stock of the first 133 MERS coronavirus cases globally--Is the epidemic changing? Euro surveillance : bulletin Europeen sur les maladies transmissibles = European communicable disease bulletin 18

Perlman S, Dandekar AA (2005) Immunopathogenesis of coronavirus infections: implications for SARS. Nature reviews Immunology 5: 917-927

Satija N, Lal SK (2007) The molecular biology of SARS coronavirus. Ann NY Acad Sci 1102: 26-38

Shaw ML et al (2008) Cellular proteins in influenza virus particles. PLoS Pathog 4: e1000085

Sheahan T et al (2008) Mechanisms of zoonotic severe acute respiratory syndrome coronavirus host range expansion in human airway epithelium. Journal of virology 82: 2274-2285

Siu YL et al (2008) The M, E, and N structural proteins of the severe acute respiratory syndrome coronavirus are required for efficient assembly, trafficking, and release of virus-like particles. Ibid. 82: 11318-11330

Suess T et al (2012) Comparison of shedding characteristics of seasonal influenza virus (sub) types and influenza A (H1N1) pdm09; Germany, 2007–2011. PloS one 7: e51653

Tan YJ et al (2005) Characterization of viral proteins encoded by the SARS-coronavirus genome. Antiviral Res 65: 69-78

Taubenberger JK, Morens DM (2006) 1918 Influenza: the mother of all pandemics. Emerging infectious diseases 12: 15-22

Thompson WW et al (2003) Mortality associated with influenza and respiratory syncytial virus in the United States, Jama 289: 179-186

Tsai KN, Chen GW (2011) Influenza genome diversity and evolution. Microbes Infect 13: 479-488

Tuite AR et al (2010) Estimated epidemiologic parameters and morbidity associated with pandemic H1N1 influenza. Canadian Medical Association Journal 182: 131-136

Varia M et al (2003) Investigation of a nosocomial outbreak of severe acute respiratory syndrome (SARS) in Toronto, Canada. CMAJ 169: 285-292

Wang C et al (2012) Epidemiological and clinical characteristics of the outbreak of 2009 pandemic influenza A (H1N1) at a middle school in Luoyang, China. Public Health 126: 289-294

Wang MD, Jolly AM (2004) Changing virulence of the SARS virus: the epidemiological evidence. Bull World Health Organ 82: 547-548

Wang N et al (2013) Structure of MERS-CoV spike receptor-binding domain complexed with human receptor DPP4. Cell Res 23: 986-993

World Health Organization. Alert, verification and public health management of SARS in the post-outbreak period. http://www.who.int/csr/sars/postoutbreak/en/. Last Update August 14, 2003. Accessed July 2015.

World Health Organization (2015c) Management of asymptomatic persons who are RTPCR positive for Middle East respiratory syndrome coronavirus (MERS-CoV). Interim guidance July 2015: 1-3

World Health Organization (2014b) Middle East respiratory syndrome coronavirus (MERS-CoV). WHO Risk Assesment April 2014: 1-4

World Health Organization (2015b) Summary of Current Situation, Literature Update and Risk Assessment. Middle East respiratory syndrome coronavirus (MERS-CoV) 15: 1-7

World Health Organization, Severe Acute Respiratory Syndrome (SARS) Epidemiology Working Group (2003a) Consensus document on the epidemiology of severe acute respiratory syndrome (SARS).

World Health Organization Collaborating Centre for Reference and Research on Influenza. About Influenza. http://www.influenzacentre.org/aboutinfluenza.htm. Last Update Accessed October 2015.

Xu R et al (2010) Structure, receptor binding, and antigenicity of influenza virus hemagglutinins from the 1957 H2N2 pandemic. J Virol 84: 1715-1721

Chapter 5

Abdel-Moneim AS (2014) Middle East respiratory syndrome coronavirus (MERS-CoV): evidence and speculations. *Arch Virol* 159: 1575-1584

Abdelwhab EM, et al (2014) "Prevalence and Control of H7 Avian Influenza Viruses in Birds and Humans," *Epidemiology and Infection* 142, no. 5: 896–920.

Anderson RM et al (2004) Epidemiology, transmission dynamics and control of SARS: the 2002-2003 epidemic. *Philosophical transactions of the Royal Society of London Series B, Biological sciences* 359: 1091-1105

Arabi YM et al (2014) Clinical course and outcomes of critically ill patients with Middle East respiratory syndrome coronavirus infection. Ann Intern Med 160: 389-397

Asiedu-Bekoe F *et al* (2012) Mass oseltamivir prophylaxis halts pandemic influenza A H1N1 2009 outbreak in a secondary school in Ashanti Region, Ghana. *Ghana medical journal* 46: 219-224

Assiri A *et al* (2013a) Epidemiological, demographic, and clinical characteristics of 47 cases of Middle East respiratory syndrome coronavirus disease from Saudi Arabia: a descriptive study. *The Lancet Infectious diseases* 13: 752-761

Belinda Ostrowsky et al., "Low Pathogenic Avian Influenza A (H7N2) Virus Infection in Immunocompromised Adult, New York, USA, 2003," *Emerging Infectious Diseases* 18, no. 7 (July 2012): 1128–31

Belser JA *et al* (2009) Past, Present, and Possible Future Human Infection with Influenza Virus A Subtype H7. *Emerging Infectious Diseases* 15: 859-865

Braden CR et al (2013) Progress in global surveillance and response capacity 10 years after severe acute respiratory syndrome. Emerg Infect Dis 19: 864-869

Centers for Disease Control and Prevention (2004) Basic Information about SARS Fact Sheet

Centers for Disease C, Prevention (2010) Estimates of deaths associated with seasonal influenza --- United States, 1976-2007. MMWR Morbidity and mortality weekly report 59: 1057-1062

Centers for Disease Control and Prevention. Estimating Seasonal Influenza-Associated Deaths in the United States: CDC Study Confirms Variability of Flu. http://www.cdc.gov/flu/about/disease/us_flurelated_deaths.htm. Last Update March 2015. Accessed May 2015.

Centers for Disease Control and Prevention. (2008) Influenza Activity --- United States and Worldwide, 2007--08 Season. *Morbidity and Mortality Weekly Report*, Vol. 57, pp. 692-697.

Centers for Disease Control and Prevention. (2009) Update: Influenza Activity-- United States, September 28, 2008- April 4, 2009, and Composition of the 2009-2010 Influenza Vaccine *Morbidity and Mortality Weekly Report*, Vol. 58, pp. 369-374.

Centers for Disease Control and Prevention. (2010) Update: Influenza Activity United States, 2009--10 Season. *Morbidity and Mortality Weekly Report*, Vol. 59, pp. 901-908.

Centers for Disease Control and Prevention. (2011) Update: Influenza Activity --- United States, 2010--11 Season, and Composition of the 2011--12 Influenza Vaccine. *Morbidity and Mortality Weekly Report*, Vol. 60, pp. 705-712.

Centers for Disease Control and Prevention. (2012) Update: Influenza Activity — United States, 2011–12 Season and Composition of the 2012–13 Influenza Vaccine. *Morbidity and Mortality Weekly Report*, Vol. 61, pp. 414-420.

Centers for Disease Control and Prevention. (2013b) Influenza Activity — United States, 2012–13 Season and Composition of the 2013–14 Influenza Vaccine. *Morbidity and Mortality Weekly Report*, Vol. 62, pp. 473-479.

Centers for Disease Control and Prevention. (2014b) Influenza Activity — United States, 2013–14 Season and Composition of the 2014–15 Influenza Vaccines. *Morbidity and Mortality Weekly Report*, Vol. 63, pp. 483-490.

Centers for Disease Control and Prevention. Influenza (Flu). http://www.cdc.gov/flu/. Last Update 2015. Accessed May 2015.

Centers for Disease Control and Prevention. (2015c) Leading Causes of Death.

Centers for Disease Control and Prevention. Middle East Respiratory Syndrome (MERS). http://www.cdc.gov/coronavirus/mers/. Last Update June 22, 2015. Accessed July 2015.

Centers for Disease Control and Prevention. Overview of Influenza Surveillance in the United States. Last Update Accessed June 2015.

Centers for Disease Control and Prevention. Remembering SARS: A Deadly Puzzle and the Efforts to Solve It. Last Update April 2013. Accessed

Centers for Disease Control and Prevention. Seasonal Influenza Vaccine Effectiveness, 2005-2015. http://www.cdc.gov/flu/professionals/vaccination/effectiveness-studies.htm. Last Update June 24, 2015. Accessed Aug 11, 2015.

Centers for Disease Control and Prevention. Types of Influenza Viruses. http://www.cdc.gov/flu/about/viruses/types.htm. Last Update 2014. Accessed May 2015.

Centers for Disease Control and Prevention. Use of Antivirals: Background and Guidance on the Use of Influenza Antiviral Agents. http://www.cdc.gov/flu/professionals/antivirals/antiviral-use-influenza.htm. Last Update Feb 25, 2015. Accessed October 2015.

Chan-Yeung M, Xu R-H (2003) SARS: epidemiology. Respirology 8: S9-S14

Christian MD et al (2004) Severe acute respiratory syndrome. Clin Infect Dis 38: 1420-1427

Commission of the European Communities (2015) Impact Assessment Avian Influenza. 171

Cowling, BJ et al "Assessment of influenza vaccine effectiveness in a sentinel surveillance network 2010-13, United States." *Vaccine* 2015, article in press.

Cox NJ, Subbarao K (2000) Global epidemiology of influenza: past and present. *Annual review of medicine* 51: 407-421

Crosby, A. 1989. America's Forgotten Pandemic: The Influenza of 1918. Cambridge: Cambridge University Press.

Dawood FS et al (2012) Estimated global mortality associated with the first 12 months of 2009 pandemic influenza A H1N1 virus circulation: a modelling study. Lancet Infectious Diseases 12: 687-695

Demicheli V et al (2004) Vaccines for preventing influenza in healthy adults. Cochrane Database Syst Rev: CD001269

Donnelly CA et al (2003) Epidemiological determinants of spread of causal agent of severe acute respiratory syndrome in Hong Kong. *Lancet* 361: 1761-1766

Doshi P (2008) Trends in recorded influenza mortality: United States, 1900-2004. *Am J Public Health* 98: 939-945

Doshi AM et al (2014) Trends in Recorded Influenza Mortality: United States, 1900-2004, 2009. American Journal of Public Health 98: 939-945

Enserink (2004) "Infectious Diseases. Bird Flu Infected 1000, Dutch Researchers Say," *Science (New York, N.Y.)* 306, no. 5696: 590

Fan, EX. (2003). *SARS: Economic Impacts and Implications*. © Asian Development Bank. http://hdl.handle.net/11540/616. License: CC BY 3.0 IGO.

Fiore AE *et al.* (2007) Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Reports Recommendations and Reports*. Centers for Disease Control and Prevention, Atlanta, GA, Vol. 56, pp. 1-54.

Fiore AE et al (2010) Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010, Atlanta, Ga. Dept. of Health and Human Services, Centers for Disease Control and Prevention.

Food and Drug Administration. (2014) FDA approves Rapivab to treat flu infection. *FDA News Release*. U.S. Food and Drug Administration.

Foppa IM *et al* (2015) Deaths averted by influenza vaccination in the U.S. during the seasons 2005/06 through 2013/14. *Vaccine* 33: 3003-3009

Geier et al (2006) Influenza Vaccine: Review of Effectiveness of the U.S. Immunization Program, and Policy Considerations. Journal of American Physicians and Surgeons

Gerberding JL, Centers for Disease Control and Prevention. (2005) Avain Influenza: Preparing for a possible Influenza Pandemic

Griffin MR *et al* (2011) Effectiveness of non-adjuvanted pandemic influenza A vaccines for preventing pandemic influenza acute respiratory illness visits in 4 U.S. communities. *PLoS One* 6: e23085

Guan Y et al Molecular epidemiology of the novel coronavirus that causes severe acute respiratory syndrome. *Lancet* 363: 99-104

Gubareva LV *et al* (2010) Comprehensive assessment of 2009 pandemic influenza A (H1N1) virus drug susceptibility in vitro. *Antiviral therapy* 15: 1151-1159

Hannoun C (2013) The evolving history of influenza viruses and influenza vaccines. *Expert review of vaccines* 12: 1085-1094

Health Sentinel. The World Health Organization. Severe acute respiratory syndrome. http://www.who.int/topics/sars/en/. Last Update Accessed July 2015.

Hussain HY (2014) Incidence and Mortality Rate of "Middle East Respiratory Syndrome"-Corona Virus (MERS-Cov), Threatens and Opportunities. *J Mycobac Dis* 5.

Institute for Health Metrics and Evaluation (2013) The Global Burden of Disease: Generating Evidence, Guiding Policy. 1-50

Knobler S, et al (eds). (2004) Estimating the Global Economic Cost of SARS. In *Learning from SARS: Preparing for the Next Disease Outbreak: Workshop Summary*. Washington (DC)

Kostova D *et al* (2013) Influenza Illness and Hospitalizations Averted by Influenza Vaccination in the United States, 2005-2011. *PLoS One* 8: e66312

Kurtz, et. al, (1996) "Avian Influenza Virus Isolated from a Woman with Conjunctivitis," *Lancet (London, England)* 348, no. 9031: 901–2

Lagace-Wiens PR et al (2010) Influenza epidemiology--past, present, and future. Crit Care Med 38: 1-9

Lee AM *et al* (2007) Stress and psychological distress among SARS survivors 1 year after the outbreak. *Canadian journal of psychiatry* 52: 233

Leung YH *et al* (2011) A school outbreak of pandemic (H1N1) 2009 infection: assessment of secondary household transmission and the protective role of oseltamivir. *Epidemiology and infection* 139: 41-44

Li IW *et al* (2010) The natural viral load profile of patients with pandemic 2009 influenza A(H1N1) and the effect of oseltamivir treatment. *Chest* 137: 759-768

Lopez-Martinez I *et al* (2013a) Highly pathogenic avian influenza A(H7N3) virus in poultry workers, Mexico, 2012. *Emerg Infect Dis* 19: 1531-1534

Mackenzie JS, Merianos A (2013) The legacies of SARS - international preparedness and readiness to respond to future threats in the Western Pacific Region. *Western Pacific surveillance and response journal:* WPSAR 4: 4-

Maeda T et al (2004) Failure of inactivated influenza A vaccine to protect healthy children aged 6-24 months. Pediatrics international: official journal of the Japan Pediatric Society 46: 122-125

Mak IWC et al Long-term psychiatric morbidities among SARS survivors. *General Hospital Psychiatry* 31: 318-326

Mao L *et al* (2012) Annual economic impacts of seasonal influenza on US counties: spatial heterogeneity and patterns. *Int J Health Geogr* 11: 16

Mathews JD *et al* (2009) Understanding influenza transmission, immunity and pandemic threats. *Influenza and other respiratory viruses* 3: 143-149

McLean HQ *et al* (2015) Influenza vaccine effectiveness in the United States during 2012-2013: variable protection by age and virus type. *The Journal of infectious diseases* 211: 1529-1540

Meschi S et al (2011) Duration of viral shedding in hospitalized patients infected with pandemic H1N1. BMC infectious diseases 11: 140

Molinari NA *et al* (2007) The annual impact of seasonal influenza in the US: measuring disease burden and costs. *Vaccine* 25: 5086-5096s

Morens DM *et al* (2008) Predominant role of bacterial pneumonia as a cause of death in pandemic influenza: implications for pandemic influenza preparedness. *J Infect Dis* 198: 962-970

Murray CJ *et al* (2006) Estimation of potential global pandemic influenza mortality on the basis of vital registry data from the 1918-20 pandemic: a quantitative analysis. *Lancet* 368: 2211-2218

Muthuri SG *et al* (2014) Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: a meta-analysis of individual participant data. *The Lancet Respiratory medicine* 2: 395-404

National Institute of Allergy and Infectious Diseases. (2011) Pandemic Flu History. Department of Health & Human Services, Washington, DC.

Nebehay, S. (2013) China's bird flu outbreak cost \$6.5 billion. *Reuters*.

Nguyen-Van-Tam et al., (2006) "Outbreak of Low Pathogenicity H7N3 Avian Influenza in UK, Including Associated Case of Human Conjunctivitis," *Euro Surveillance: Bulletin Européen Sur Les Maladies Transmissibles = European Communicable Disease Bulletin* 11, no. 5: E060504.2.

Nicholson KG *et al* (2000) Efficacy and safety of oseltamivir in treatment of acute influenza: a randomised controlled trial. Neuraminidase Inhibitor Flu Treatment Investigator Group. *Lancet* 355: 1845-1850

Noymer A, Garenne M (2000) The 1918 influenza epidemic's effects on sex differentials in mortality in the United States. *Population and development review* 26: 565-581

Odaira F *et al* (2009) Assessment of secondary attack rate and effectiveness of antiviral prophylaxis among household contacts in an influenza A(H1N1)v outbreak in Kobe, Japan, May-June 2009. *Euro surveillance: bulletin Europeen sur les maladies transmissibles = European communicable disease bulletin* 14

Oh DY *et al* (2014) Evaluation of oseltamivir prophylaxis regimens for reducing influenza virus infection, transmission and disease severity in a ferret model of household contact. *The Journal of antimicrobial chemotherapy* 69: 2458-2469

Osterholm MT (2005) Preparing for the next pandemic. N Engl J Med 352: 1839-1842

Osterholm MT *et al* (2012) Efficacy and effectiveness of influenza vaccines: a systematic review and meta-analysis. *The Lancet Infectious diseases* 12: 36-44

Peiris JS *et al* (2007) Avian influenza virus (H5N1): a threat to human health. *Clin Microbiol Rev* 20: 243-267

Penttinen PM et al (2013) Taking stock of the first 133 MERS coronavirus cases globally--Is the epidemic changing? Euro surveillance: bulletin Europeen sur les maladies transmissibles = European communicable disease bulletin 18

Puzelli S *et al* (2014a) Human Infection with Highly Pathogenic A(H7N7) Avian Influenza Virus, Italy, 2013. *Emerging Infectious Diseases* 20: 1745-1749-945

Puzelli, et al. (2005) "Serological Analysis of Serum Samples from Humans Exposed to Avian H7 Influenza Viruses in Italy between 1999 and 2003," *The Journal of Infectious Diseases* 192, no. 8: 1318–22

Rizzo C *et al* (2006) Influenza-related mortality in the Italian elderly: no decline associated with increasing vaccination coverage. *Vaccine* 24: 6468-6475

Rothberg MB, Haessler SD (2010) Complications of seasonal and pandemic influenza. *Crit Care Med* 38: e91-97

Siu A, Wong YCR ibid. Economic Impact of SARS: The Case of Hong Kong. 62-83

Simms L, Jeggo M (2014) Avian influenza from an ecohealth perspective. EcoHealth 11: 4-14

Simonsen L *et al* (1998) Pandemic versus epidemic influenza mortality: a pattern of changing age distribution. *J Infect Dis* 178: 53-60

Simonsen L *et al* (2005) Impact of influenza vaccination on seasonal mortality in the US elderly population. *Arch Intern Med* 165: 265-272

Simonsen L (1999) The global impact of influenza on morbidity and mortality. Vaccine 17 Suppl 1: 3-10

Simonsen L et al (2000) The impact of influenza epidemics on hospitalizations. J Infect Dis 181: 831-837

Smith RD (2006) Responding to global infectious disease outbreaks: lessons from SARS on the role of risk perception, communication and management. *Soc Sci Med* 63: 3113-3123

Taubenberger JK, Morens DM (2006) 1918 Influenza: the mother of all pandemics. *Emerging infectious diseases* 12: 15-22

Thompson WW *et al* (2006) Epidemiology of seasonal influenza: use of surveillance data and statistical models to estimate the burden of disease. *J Infect Dis* 194 Suppl 2: S82-91

Thompson WW et al (2004) Influenza-associated hospitalizations in the United States. Jama 292: 1333-1340.

Thompson WW *et al* (2003) Mortality associated with influenza and respiratory syncytial virus in the United States. *Jama* 289: 179-186

Tosh PK *et al* (2010) Influenza Vaccines: From Surveillance Through Production to Protection. *Mayo Clinic Proceedings* 85: 257-273

Tweed et al., (2004) "Human Illness from Avian Influenza H7N3, British Columbia," *Emerging Infectious Diseases* 10, no. 12: 2196–99

U.S. Department of Health and Human Services NIoH. (2006) Development and Use of Antivirals for Pandemic Influenza *Meeting Summary* Bethesda, MD

U.S. Government Accountability Office. Shortages in 2004-2005 season underscore need for better preparation (2005) Rep. No. GAL-05-984: 1-5

Vaccines Ho. Influenza Pandemics. http://www.historyofvaccines.org/content/articles/influenza-pandemics. Last Update July 2014. Accessed October 2015.

Wang MD, Jolly AM (2004) Changing virulence of the SARS virus: the epidemiological evidence. *Bull World Health Organ* 82: 547-548

Wen H et al (2004) The Short-Term Impact of SARS on the Chinese Economy. Asian Economic Papers 3: 57-61

World Health Organization. Alert, verification and public health management of SARS in the post-outbreak period. http://www.who.int/csr/sars/postoutbreak/en/. Last Update August 14, 2003. Accessed July 2015

World Health Organization. Avian Influenza Fact Sheet.

http://www.who.int/mediacentre/factsheets/avian_influenza/en/. Last Update March 2014. Accessed August 2015.

World Health Organization (2015) Briefing for Foreign Correspondents MERS Outbreak.

World Health Organization. Cumulative number of confirmed human cases for avian influenza A(H5N1) http://www.who.int/influenza/human_animal_interface/EN_GIP_20150717cumulativeNumberH5N1cases .pdf?ua=1. Last Update July 2015. Accessed August 2015.

World Health Organization. Influenza (Seasonal). http://www.who.int/mediacentre/factsheets/fs211/en/. Last Update March 2014. Accessed May 2015.

World Health Organization (2005) Influenza Vaccines. WHO Position Paper 33: 279-287

World Health Organization. Middle East respiratory syndrome coronavirus (MERS-CoV). http://www.who.int/emergencies/mers-cov/en/. Last Update 2015. Accessed July 2015.

World Health Organization. Middle East respiratory syndrome coronavirus (MERS-CoV) maps and epicurves. http://www.who.int/csr/disease/coronavirus_infections/maps-epicurves/en/. Last Update July 2015. Accessed July 2015.

World Health Organization. Middle East respiratory syndrome coronavirus (MERS-CoV) – Republic of Korea. http://www.who.int/csr/don/17-july-2015-mers-korea/en/. Last Update July 17, 2015. Accessed July 2015.

World Health Organization (2003b) Severe acute respiratory syndrome (SARS): Status of the outbreak and lessons for the immediate future. Unmasking a new disease

World Health Organization. Severe acute respiratory syndrome. http://www.who.int/topics/sars/en/. Last Update Accessed July 2015.

World Health Organization (2015e) Summary and assessment as of 17 July 2015. *Influenza at the human-animal interface*: 1-4

World Health Organization (2015b) Summary of Current Situation, Literature Update and Risk Assessment. *Middle East respiratory syndrome coronavirus (MERS-CoV)* 15: 1-7

Xiang YT et al (2014) Outcomes of SARS survivors in China: not only physical and psychiatric comorbidities. East Asian archives of psychiatry: official journal of the Hong Kong College of Psychiatrists = Dong Ya jing shen ke xue zhi: Xianggang jing shen ke yi xue yuan qi kan 24: 37-38

Yu H *et al* (2010) Effectiveness of oseltamivir on disease progression and viral RNA shedding in patients with mild pandemic 2009 influenza A H1N1: opportunistic retrospective study of medical charts in China. *BMJ* 341: c4779

Zhou H *et al* (2012) Hospitalizations associated with influenza and respiratory syncytial virus in the United States, 1993-2008. *Clin Infect Dis* 54: 1427-1436

Chapter 6

Alexander DJ (2007) An overview of the epidemiology of avian influenza. Vaccine 25: 5637-5644

Biggerstaff, M et al "Estimating the potential effects of a vaccine program against an emerging influenza pandemic--United States." Clin Inf Dis S1, S20-9 (2015).

Bui C *et al* (2015) A Systematic Review of the Comparative Epidemiology of Avian and Human Influenza A H5N1 and H7N9 - Lessons and Unanswered Questions. *Transboundary and emerging diseases*

Cowling, BJ et al "Assessment of influenza vaccine effectiveness in a sentinel surveillance network 2010-13, United States." *Vaccine* 2015, article in press.

Deboosere N *et al* (2011) Development and validation of a concentration method for the detection of influenza a viruses from large volumes of surface water. *Applied and environmental microbiology* 77: 3802-3808

de Vries E *et al* ibid.Rapid Emergence of Highly Pathogenic Avian Influenza Subtypes from a Subtype H5N1 Hemagglutinin Variant. 842-846

FEMA, National Flood Hazard Layer Map (Official), accessed in June, 2015 at http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30.

Fouchier RA *et al* (2004) Avian influenza A virus (H7N7) associated with human conjunctivitis and a fatal case of acute respiratory distress syndrome. *Proceedings of the National Academy of Sciences of the United States of America* 101: 1356-1361

Gilbert M et al (2006) Anatidae migration in the western Palearctic and spread of highly pathogenic avian influenza H5NI virus. Emerging infectious diseases 12: 1650-1656

Ip HS *et al* (2015) Novel Eurasian highly pathogenic avian influenza A H5 viruses in wild birds, Washington, USA, 2014. *Emerging infectious diseases* 21: 886-890

Liang L *et al* (2010) Combining spatial-temporal and phylogenetic analysis approaches for improved understanding on global H5N1 transmission. *PloS one* 5: e13575

Lipsitch, M., et al., Transmission dynamics and control of severe acute respiratory syndrome. Science, 2003. 300(5627): p. 1966-70.

Lloyd-Smith JO, et al (2005) Superspreading and the effect of individual variation on disease emergence. Nature 438: 355-359

Messenger AM *et al* (2014) Reverse zoonotic disease transmission (zooanthroponosis): a systematic review of seldom-documented human biological threats to animals. *PloS one* 9: e89055

Newcombe RG (1998) Two-sided confidence intervals for the single proportion: comparison of seven methods. *Statistics in medicine* 17: 857-872

Stallknecht DE et al (1990) Persistence of avian influenza viruses in water. Avian diseases 34: 406-411

The World Health Organization, "Overview of the emergence and characteristics of the avian influenza A(H7N9) virus", Report issued May 31, 2013.

USGS, US Seismic Design Maps, accessed in June, 2015 at http://earthquake.usgs.gov/designmaps/us/application.php

Wallinga, J, Teunis P (2004) Different epidemic curves for severe acute respiratory syndrome reveal similar impacts of control measures. *American Journal Epidemiology*, 160(6): p. 509-516

Yee KS et al (2009) Epidemiology of H5N1 avian influenza. Comparative immunology, microbiology and infectious diseases 32: 325-340

Chapter 7

42 C.F.R.§73

42 C.F.R. §73.11

9 C.F.R. §121

9 C.F.R. §121.11

7 C.F.R. §331

7 C.F.R. §331.11

(1989) "Diseased mice freed in arson fires, break-in," Spartanburg Herald-Journal

Carus SW, (1998) *Bioterrorism and Biocrimes: The Illicit Use of Biological Agents Since 1900* Washington, DC, National Defense University.

Department of Health and Human Services (2009) *Biosafety in Microbiological and Biomedical Laboratories – Fifth Edition*.

Kushner D. (2013) The Real Story of Stuznet. IEEE Spectrum.

Langner R (2015) To Kill a Centrifuge: A Technical Analysis of What Stuxnet's Creators Tried to Achieve. Accessible at http://www.langner.com/en/wp-content/uploads/2013/11/To-kill-a-centrifuge.pdf. Accessed on November 5, 2015.

Leitenberg M., Zilinskas R. (2012) *The Soviet Biological Weapons Program: A History*. Cambridge, MA, Harvard University Press

Lewis JE, Deputy Assistant Director, Federal Bureau of Investigation (2004) Testimony before the Senate Judiciary Committee, Washington DC

Moran R (2004) Animal activists defend tactics that led to raid – Protests target the homes of business executives. *The Inquirer*.

Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, Defense Science Board (2009) Report of the Defense Science Board Task Force on Department of Defense Biological Safety and Security Program.

Oliver M (2007) 30 arrested as raids target animal rights extremists. The Guardian

Proposed regulation covers laboratory generated, mammalian, respiratory-transmissible influenza viruses containing the hemagglutinin from the A/Goose/Guangdong/1/96 lineage. Federal Register Volume 80, Number 136, Pages 42079-42084

Sawer P (2014) Debbie Vincent: Former soldier turned animal rights extremist jailed for six years *The Telegraph*.

Chapter 8

Amyris Genome Compiler. Accessible at http://www.genomecompiler.com/amyris-dna-construction-ongenome-

compiler/?utm_source=refferal_website&utm_medium=press_release&utm_term=5_8_2015&utm_conte nt=website&utm_campaign=amyris_alpha_program. Accessed on September 12, 2015.

"Britain's 'Anthrax Island'," BBC News, July 25, 2001,

Broder CC, et al. (2013) "A treatment for and vaccine against the deadly Hendra and Nipah viruses," *Antiviral Research* 100: 8-13

Brooke RJ *et al* (2013) Human dose response relation for airborne exposure to Coxiella burnetii. *BMC infectious diseases* 13: 488

Bui C, et al. (2015) "A Systematic Review of the Comparative Epidemiology of Avian and Human Influenza A H5N1 and H7N9- Lessons and Unanswered Questions," *Transboundary and Emerging Diseases*

Canter DA, et al (2005) "Remediation of Bacillus anthracis Contamination in the US Department of Justice Mail Facility," *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 3, no. 2: p. 119-127

Cauchemez S *et al* (2014) Middle East respiratory syndrome coronavirus: quantification of the extent of the epidemic, surveillance biases, and transmissibility. *The Lancet Infectious diseases* 14: 50-56

Chowell G, et al (2004) "The basic reproductive number of Ebola and the effects of public health measures: the cases of Congo and Uganda," *Journal of Theoretical Biology* 229, no. 1: p.119-126.

Coburn BJ, et al (2009) "Modeling influenza epidemics and pandemics: insights into the future of swine flu (H1N1)," BMC Medicine

Cole L, (1998) *Clouds of Secrecy: The Army's Germ Warfare Tests Over Populated Areas* Lanham: Rowman & Littlefield.

Danzig R, et al., (2012) "Aum Shinrikyo: Insights into how terrorists develop biological and chemical weapons, second edition," *Center for a New American Security*

De Angelis T (2009) "Understanding Terrorism," American Psychological Association.

National Advisory Board for Biosecurity (2015) Framework for Conducting Risk and Benefit Assessment of Gain-of-Function Research

Gani R, Leach S, (2004) "Epidemiologic determinants for modeling pneumonic plague outbreaks," *Emerging Infectious Diseases* 10:.608-614,

Glynn A, et al., (2015) "Comparison of experimental respiratory tularemia in three nonhuman primate species," Comparative Immunology, *Microbiology and Infectious Diseases* 39

Gu W. et al. (2004) "Analysis of synonymous codon usage in SARS Coronavirus and other viruses in the Nidovirales," *Virus Research* 101, vol 2: 155-161.

Guan Y et al (2004) Molecular epidemiology of the novel coronavirus that causes severe acute respiratory syndrome. The Lancet 363: 99-104

Herfst S *et al* (2012) Airborne transmission of influenza A/H5N1 virus between ferrets. *Science* 336: 1534-154

Hinckley AF, et al (2012) "Transmission dynamics of primary pneumonic plague in the USA," *Epidemiology and Infection* 140, no. 3 p. 554-560.

Ilyushina NA *et al* (2010) Adaptation of pandemic H1N1 influenza viruses in mice. *Journal of virology* 84: 8607-8616

Institute of Medicine (US), Committee on the Assessment of Future Scientific Needs for Variola Virus, "Live Variola Virus: Considerations for Continuing Research," p. 13, 132.

Ippolito G, et al. (2012) "Viral hemorrhagic fevers: advancing the level of treatment," *BMC Medicine* 10, no. 31

Jon-Erik CH, et al. (2006) "Systematic review: a century of inhalational anthrax cases from 1900 to 2005," *Annals of Internal Medicine* 144 no. 4: p. 270-280,

Joseph RE, et al (2011) "Modeling Inhalational Tularemia: Deliberate Release and Public Health Response," *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 9, no. 4: p.334-335,

JOVE. Accessible at http://www.jove.com/. Accessed on September 12, 2015

Keyaerts E. et al (2007) "Current Status of Antiviral Severe Acute Respiratory Syndrome Coronavirus Research," *Coronaviruses: Molecular and Cellular Biology*, ed. Volker Thiel Norfolk: Caister Academic Press, p. 328.

Khan A, et al (2015) "Estimating the basic reproductive ratio for the Ebola outbreak in Liberia and Sierra Leone," *Infectious Diseases of Poverty* 4, no. 13 (February 2015),

Kiersten JK, et al. (2015) "Epidemiology of Human Plague in the United States, 1900-2012," *Emerging Infectious Diseases* 21, no. 1: p. 16-22,

Leitenberg M, Zilinskas R, (2012) *The Soviet Biological Weapons Program: A History* Cambridge: Harvard University Press

Lewnard JA, et al., (2014) "Dynamics and control of Ebola virus transmission in Montserrado, Liberia: a mathematical modelling analysis," Lancet Infectious Diseases 14, no. 12 p. 1189-1195,

McConchie R (2015) "Hendra trials for humans about treatment not prevention," ABC Rural

McNeil Jr, DC (2009) "How a Mild Virus Might Turn Vicious," The New York Times

Mehedi M, et al., (2011) "Clinical aspects of Marburg hemorrhagic fever," Future Virology p. 1091-1106,

Morens D, Taubenberger J (2015) How Low Is the Risk of Influenza A (H5N1) Infection? *The Journal of Infectious Diseases* 211: 9 p. 1364-1366,

Murakami S *et al* (2012) Enhanced growth of influenza vaccine seed viruses in vero cells mediated by broadening the optimal pH range for virus membrane fusion. *Journal of virology* 86: 1405-1410

Nasner-Posso K, et al (2015) Human melioidosis reported by ProMED. *International Journal of Infectious Diseases* 35: p.103-104

Nishiura H, et al., (2006) Transmission potential of primary pneumonic plague: time inhomogeneous evaluation based on historical documents of the transmission network. *Journal of Epidemiology and Community Health* 60, no.7 p.640-645

Ouagrham-Gormleym S (2014) Barriers to Bioweapons Ithaca: Cornell University Press.

Pérez-Trallero E. (2009) "Residual Immunity in Older People Against the Influenza A(H1N1) – Recent Experience in Northern Spain," *Eurosurveillance* 14, no. 39

Playford E, et al. (2010) Human Hendra Virus Encephalitis Associated with Equine Outbreak, Australia, 2008," *Emerging Infectious Diseases* 16: 2

Revill J, Jefferson C (2013). Tacit knowledge and the biological weapons regime. Science and Public Policy, 41 (5). pp. 597-610

Saïdani N, et al.(2015) "Melioidosis as a travel-associated infection: Case report and review of the literature," *Travel Medicine and Infectious Disease*

Sutton TC *et al* (2014) Airborne transmission of highly pathogenic H7N1 influenza virus in ferrets. *Journal of virology* 88: 6623-6635

The Centers for Disease Control and Prevention, "Clinical Signs and Symptoms of Influenza: Influenza Prevention & Control Recommendations," http://www.cdc.gov/flu/professionals/acip/clinical.htm;

The Centers for Disease Control (CDC), "Hendra Virus Disease (HeV): Treatment,"

The Centers for Disease Control and Prevention "Middle East Respiratory Syndrome (MERS)" http://www.cdc.gov/coronavirus/mers/about/prevention.html.

The Centers for Disease Control and Prevention, (2014) "Middle East Respiratory Syndrome (CDC) - CDC Laboratory Testing for Middle East Respiratory Syndrome Coronavirus (MERS-CoV),"

The Centers for Disease Control and Prevention, "Q Fever: Symptoms, Diagnosis, and Treatment," November 13, 2013, http://www.cdc.gov/qfever/symptoms/.

The Secretary of Defense (1970) Memorandum For the President, National Security Decision Memoranda 35 and 44.

Tucker JB (2001) "Bioterrorism: Threats and Responses," *Biological Weapons: Limiting the Threat*, ed. Joshua Lederberg Cambridge: The MIT Press.

van Courtland Moon J, (2006) "The US Biological Weapons Program," *Deadly Cultures: Biological Weapons since 1945*, Cambridge: Harvard University Press.

Van Cuyk S *et al* (2011) Persistence of Bacillus thuringiensis subsp. kurstaki in Urban Environments following Spraying. *Applied and environmental microbiology* 77: 7954-7961

Vogel KM (2012) Phantom menace or looming danger?: a new framework for assessing bioweapons threats: JHU Press.

U.N. Monitoring, Verification and Inspection Commission (2006) Compendium: Chapter V, the Biological Weapons Programme.

U.S. Department of the Army, Department of the Army (1977) "U.S. Army Activity in the U.S. Biological Warfare Programs, Volume 1.

US Government Publishing Office, "Title 42: Public Health, §73.3 HHS Select agents and toxins," http://www.ecfr.gov/cgi-bin/text-

Wong E, et al. (2010) "Codon usage bias and the evolution of influenza A viruses," *BMC Evolutionary Biology* 10, 253

World Health Organization (2013) Severe Acute Respiratory Syndrome (SARS)

Xia Z-Q *et al* (2015) Modeling the transmission dynamics of Ebola virus disease in Liberia. *Scientific reports* 5: 13857

Ye J. et al. (2015) "Error-prone per-based mutagenesis strategy for rapidly generating high-yield influenza vaccine candidates," *Virology* 482: 234-243.

Zhang W et al. (2011) "Increase in viral yield in eggs and MDCK cells of reassortant H5N1 vaccine candidate viruses caused by insertion of 38 amino acids into the NA stalk," *Vaccine* 29, vol 45: 8032-41.

Zhang XS *et al* (2013) Co-circulation of influenza A virus strains and emergence of pandemic via reassortment: the role of cross-immunity. *Epidemics* 5: 20-33

Zhang Y *et al* (2013) H5N1 hybrid viruses bearing 2009/H1N1 virus genes transmit in guinea pigs by respiratory droplet. *Science* 340: 1459-1463

Chapter 9

顾轶娜,林东海,"新型抗流感病毒神经氨酸酶抑制剂帕拉米韦研究进展,"中国生化药物杂志 30, no. 4 (2009): p.273-276 [GU Yi-na, LIN Dong-Hai, "Research progress on peramivir as a novel anti-influenza virus neuraminidase inhibitor," *Chinese Journal of Biochemical Pharmaceutics* 30 no. 4 (2009): p.273-276.].

贾飞, 陈良柱, 陈建新, 孙平华, 陈卫民,"帕拉米韦合成路线图解,"中国医药工业杂志 42 no. 12 (2011): p. 954-956. [JIA Fei, CHEN Jianxin, SUN Pinghua, CHEN Weimin, "Graphical Synthetic Routes of Peramivir," *Chinese Journal of Pharmaceuticals* 42, no. 12 (2011): p. 954-956.].

(2005) "Roche licenses China firm to produce Tamiflu," China Daily, December 12, 2005

Abed Y et al (2006) Impact of neuraminidase mutations conferring influenza resistance to neuraminidase inhibitors in the N1 and N2 genetic backgrounds. Antiviral therapy 11: 971-976

Abdelwhab EM *et al* (2014) Prevalence and control of H7 avian influenza viruses in birds and humans. *Epidemiol Infect* 142: 896-920

Adar Y et al (2009) A universal epitope-based influenza vaccine and its efficacy against H5N1. Vaccine 27: 2099-2107

Aditama TY et al (2012) Avian influenza H5N1 transmission in households, Indonesia. PloS one 7: e29971

Administration FaD. Guidance - Emergency Use Authorization of Medical Products. http://www.fda.gov/RegulatoryInformation/Guidances/ucm125127.htm. Last Update Accessed November 10, 2015.

Ampofo WK *et al* (2013b) Strengthening the influenza vaccine virus selection and development process: outcome of the 2nd WHO Informal Consultation for Improving Influenza Vaccine Virus Selection held at the Centre International de Conferences (CICG) Geneva, Switzerland, 7 to 9 December 2011. *Vaccine* 31: 3209-3221

Ampofo WK *et al* (2015) Strengthening the influenza vaccine virus selection and development process: Report of the 3rd WHO Informal Consultation for Improving Influenza Vaccine Virus Selection held at WHO headquarters, Geneva, Switzerland, 1-3 April 2014. Ibid. 33: 4368-4382

An L et al (2014) Screening and identification of inhibitors against influenza A virus from a US drug collection of 1280 drugs. *Antiviral research* 109: 54-63

Antonovics J et al (2006) Molecular virology: was the 1918 flu avian in origin? Nature 440: E9; discussion E9-10

Arzey GG *et al* (2012) Influenza virus A (H10N7) in chickens and poultry abattoir workers, Australia. *Emerging infectious diseases* 18: 814-816

Avian Flu Diary. http://afludiary.blogspot.com/2015/08/cdc-fluview-1-novel-h1n1v-case-reported.html. Last Update August 28, 2015. Accessed November 28, 2015.

Babu YS *et al* (2000) BCX-1812 (RWJ-270201): discovery of a novel, highly potent, orally active, and selective influenza neuraminidase inhibitor through structure-based drug design. *Journal of medicinal chemistry* 43: 3482-3486

Baek YH *et al* (2015) Profiling and characterization of influenza virus N1 strains potentially resistant to multiple neuraminidase inhibitors. *Journal of virology* 89: 287-299

Baker SF *et al* (2014) Influenza A and B virus intertypic reassortment through compatible viral packaging signals. *Journal of virology* 88: 10778-10791

Baric RS *et al* (1999) Persistent infection promotes cross-species transmissibility of mouse hepatitis virus. *Journal of virology* 73: 638-649

Barman S *et al* (2015) Egg-adaptive mutations in H3N2v vaccine virus enhance egg-based production without loss of antigenicity or immunogenicity. *Vaccine* 33: 3186-3192

Baz M *et al* (2006) Characterization of Multidrug-Resistant Influenza A/H3N2 Viruses Shed during 1 Year by an Immunocompromised Child. *Clin Infect Dis* 43: 1555-1561

Baz M *et al* (2010) Effect of the neuraminidase mutation H274Y conferring resistance to oseltamivir on the replicative capacity and virulence of old and recent human influenza A(H1N1) viruses. *J Infect Dis* 201: 740-745

Baz M et al (2013) H5N1 vaccines in humans. Virus Res 178: 78-98

Beare AS *et al* (1975) Trials in man with live recombinants made from A/PR/8/34 (H0 N1) and wild H3 N2 influenza viruses. *Lancet* 2: 729-732

Belser JA *et al* (2008) Contemporary North American influenza H7 viruses possess human receptor specificity: Implications for virus transmissibility. *PNAS* 105: 7558-7563

Belser JA *et al* (2014) Influenza virus infectivity and virulence following ocular-only aerosol inoculation of ferrets. *Journal of virology* 88: 9647-9654

Belser JA et al (2011) The ferret as a model organism to study influenza A virus infection. Disease models & mechanisms 4: 575-579

Belshe RB (2005) The origins of pandemic influenza--lessons from the 1918 virus. *The New England journal of medicine* 353: 2209-2211

Biota Pharmaceuticals, Inc (2014) "Biota Provides Update on BARDA Contract for Laninamivir Octanoate," http://investors.biotapharma.com/releasedetail.cfm?releaseid=846423.

Blick TJ *et al* (1998) The interaction of neuraminidase and hemagglutinin mutations in influenza virus in resistance to 4-guanidino-Neu5Ac2en. Ibid. 246: 95-103

Bloom JD *et al* (2010) Permissive secondary mutations enable the evolution of influenza oseltamivir resistance. *Science* (*New York, NY*) 328: 1272-1275

Bodewes R *et al* (2013) In vitro assessment of the immunological significance of a human monoclonal antibody directed to the influenza a virus nucleoprotein. *Clinical and vaccine immunology : CVI* 20: 1333-1337

Boivin G (2013) Detection and management of antiviral resistance for influenza viruses. *Influenza and Other Respiratory Viruses* 7: 18-23

Bootsma MCJ, Ferguson NM (2007) The effect of public health measures on the 1918 influenza pandemic in U.S. cities. *PNAS* 104: 7588-7593

Borse RH *et al* (2013) Effects of vaccine program against pandemic influenza A(H1N1) virus, United States, 2009-2010. *Emerging infectious diseases* 19: 439-448

Bresee J (2013) "Global Action Plan for Influenza Vaccines – II: CDC's Supportive Activities," GAP-II Partners Meeting, Dubai, United Arab Emirates

Bright RA *et al* (2006) Adamantane resistance among influenza A viruses isolated early during the 2005-2006 influenza season in the United States. *JAMA* 295: 891-894

Bright RA *et al* (2005) Incidence of adamantane resistance among influenza A (H3N2) viruses isolated worldwide from 1994 to 2005: a cause for concern. *Lancet* 366: 1175-1181

Bright R. (2011) Review of New Vaccine Platforms and Influenza Vaccine Pipeline. http://www.who.int/influenza_vaccines_plan/resources/bright.pdf. Last Update Accessed September 15, 2015.

Butt KM *et al* (2005) Human infection with an avian H9N2 influenza A virus in Hong Kong in 2003. *Journal of clinical microbiology* 43: 5760-5767

Calistri A *et al* (2011) Report of two cases of influenza virus A/H1N1v and B co-infection during the 2010/2011 epidemics in the Italian Veneto Region. *Virology Journal* 8: 502

Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) Recommends Universal Annual Influenza Vaccination. http://www.cdc.gov/media/pressrel/2010/r100224.htm. Last Update Accessed September 15, 2015

Centers for Disease Control and Prevention. Antiviral Drug Resistance among Influenza Viruses. http://www.cdc.gov/flu/professionals/antivirals/antiviral-drug-resistance.htm. Last Accessed: November 4, 2015

Centers for Disease Control and Prevention. Case Count: Detected U.S. Human Infections with H3N2v by State since August 2011. http://www.cdc.gov/flu/swineflu/h3n2v-case-count.htm. Last Update September 4, 2015. Accessed November 28, 2015.

Centers for Disease Control and Prevention. Influenza Antiviral Medications: Summary for Clinicians. http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm. Last Update November 3, 2015. Accessed November 28, 2015.

Centers for Disease Control and Prevention (CDC). Laos and Nicaragua Protect High-Risk Persons from Influenza, with Help from Donor Coalition and CDC. http://www.cdc.gov/flu/international/highlight-high-risk.htm.

Centers for Disease Control and Prevention. Reported Infections with Variant Influenza Viruses in the United States since 2005. http://www.cdc.gov/flu/swineflu/variant-cases-us.htm#table-infections. Last Update September 4, 2015. Accessed November 28, 2015.

Centers for Disease Control and Prevention "Middle East Respiratory Syndrome (MERS)," http://www.cdc.gov/coronavirus/mers/about/prevention.html. Accessed July 7, 2015.

Centers for Disease Control and Prevention. Seasonal Influenza (Flu): H3N2v and You. http://www.cdc.gov/flu/swineflu/h3n2v-basics.htm. Last Update August 2014. Accessed September 2014.

Centers for Disease Control and Prevention. Vaccine Adjuvants. http://www.cdc.gov/vaccinesafety/concerns/adjuvants.html. Last Update Accessed September 15, 2015.

Centers for Disease Control and Prevention (2011) Limited human-to-human transmission of novel influenza A (H3N2) virus--Iowa, November 2011. MMWR Morb Mortal Wkly Rep 60: 1615-1617

Centers for Disease Control and Prevention (2012) Notes from the field: Outbreak of influenza A (H3N2) virus among persons and swine at a county fair--Indiana, July 2012. MMWR Morbidity and mortality weekly report 61: 561

Centers for Disease Control and Prevention (2012) Update: Influenza A (H3N2)v transmission and guidelines - five states, 2011. MMWR Morb Mortal Wkly Rep 60: 1741-1744

Centers for Disease Control and Prevention. (2014) What you should know for the 2014–2015 influenza season.

Centers for Disease Control and Prevention. (2014a) Influenza Activity — United States, 2014-15 Season and Composition of the 2015–16 Influenza Vaccines. *Morbidity and Mortality Weekly Report*, Vol. 64, pp. 583-590.

Chen BJ *et al* (2007) Influenza virus hemagglutinin and neuraminidase, but not the matrix protein, are required for assembly and budding of plasmid-derived virus-like particles. *Journal of virology* 81: 7111-7123

Chen H et al (2014) Clinical and epidemiological characteristics of a fatal case of avian influenza A H10N8 virus infection: a descriptive study. *Lancet* 383: 714-721

Chen L-M *et al* (2012) In vitro evolution of H5N1 avian influenza virus toward human-type receptor specificity. *Virology* 422: 105-113

Chen W et al (2005) SARS-associated coronavirus transmitted from human to pig. Emerging infectious diseases 11: 446-448

Cheung CY *et al* (2002) Induction of proinflammatory cytokines in human macrophages by influenza A (H5N1) viruses: a mechanism for the unusual severity of human disease? *Lancet* 360: 1831-1837

Chien K, Tripathy D (2009) "China, India drug firms say primed for swine flu," Reuters

Chinese SMEC (2004) Molecular evolution of the SARS coronavirus during the course of the SARS epidemic in China. *Science* 303: 1666-1669

Chowell G et al (2013) Transmission potential of influenza A/H7N9, February to May 2013, China. BMC Medicine 11: 214

Clementi N et al (2011) A human monoclonal antibody with neutralizing activity against highly divergent influenza subtypes. PloS one 6: e28001

Cohen KA *et al* (1991) Characterization of the binding site for nevirapine (BI-RG-587), a nonnucleoside inhibitor of human immunodeficiency virus type-1 reverse transcriptase. *The Journal of biological chemistry* 266: 14670-14674

Cox NJ et al (2014) Pandemic preparedness and the Influenza Risk Assessment Tool (IRAT). Current topics in microbiology and immunology 385: 119-136

CRS. International Efforts to Control the Spread of the Avian Influenza (H5N1) Virus: Affected Countries' Responses. http://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL33349.pdf. Last Update August 24, 2006. Accessed March 15, 2016.

Dacso CC et al (1984) Sporadic occurrence of zoonotic swine influenza virus infections. Journal of clinical microbiology 20: 833-835

Davis CT *et al* (2014) Use of highly pathogenic avian influenza A(H5N1) gain-of-function studies for molecular-based surveillance and pandemic preparedness. *MBio* 5

de Jong MD *et al* (2005) Oseltamivir Resistance during Treatment of Influenza A (H5N1) Infection. *New England Journal of Medicine* 353: 2667-2672

de Wilde AH *et al* (2014) Screening of an FDA-approved compound library identifies four small-molecule inhibitors of Middle East respiratory syndrome coronavirus replication in cell culture. *Antimicrobial agents and chemotherapy* 58: 4875-4884

Deng G et al (2015) Genetics, Receptor Binding, and Virulence in Mice of H10N8 Influenza Viruses Isolated from Ducks and Chickens in Live Poultry Markets in China. Journal of virology 89: 6506-6510

Deng X et al (2014) A chimeric virus-mouse model system for evaluating the function and inhibition of papain-like proteases of emerging coronaviruses. *Journal of virology* 88: 11825-11833

U.S. Department of Health and Human Services. International Influenza Vaccine Capacity Building Portfolio. https://www.medicalcountermeasures.gov/projectmaps/Who.aspx. Last Update Accessed January 26, 2016.

U.S. Department of Health and Human Services (2012) "An HHS retrospective on the 2009 H1N1influenza pandemic to advance all hazards preparedness"

Dharan NJ et al (2009) Infections with oseltamivir-resistant influenza A(H1N1) virus in the United States. JAMA 301: 1034-1041

Dowling B. Protein Sciences' N.Y. Factory Licensed For Flu Vaccine Production. http://www.courant.com/business/hc-protein-sciences-pearl-river-approval-20150513-story.html. Last Update 13 May 2015. Accessed 14 September 2015.

Dyall J et al ibid.Repurposing of clinically developed drugs for treatment of Middle East respiratory syndrome coronavirus infection. 4885-4893

Easterbrook JD *et al* (2011) Immunization with 1976 swine H1N1- or 2009 pandemic H1N1-inactivated vaccines protects mice from a lethal 1918 influenza infection. *Influenza Other Respir Viruses* 5: 198-205

EffacttPharm, "Research Progress," July 10, 2015, http://www.effecttpharm.com/yifang_e.html

Enserink M (2004) Infectious diseases. Bird flu infected 1000, Dutch researchers say. *Science (New York, NY)* 306: 590

Everitt AR *et al* (2012) IFITM3 restricts the morbidity and mortality associated with influenza. *Nature* 484: 519-523

Executive Office of the President, President's Council of Advisors on Science and Technology, (2010) Report to the President on Reengineering the Influenza Vaccine Production Enterprise to Meet the Challenges of Pandemic Influenza.

FAO. H7N9 Situation Update.

http://www.fao.org/ag/againfo/programmes/en/empres/H7N9/Situation_update.html. Last Update November 24, 2015. Accessed November 28, 2015.

Ferguson NM et al (2004) Public Health Risk from the Avian H5N1 Influenza Epidemic. Science 304: 968-969

Fett C *et al* (2013) Complete protection against severe acute respiratory syndrome coronavirus-mediated lethal respiratory disease in aged mice by immunization with a mouse-adapted virus lacking E protein. *Journal of virology* 87: 6551-6559

Fidler DP, *et al* (2010) Negotiating equitable access to influenza vaccines: global health diplomacy and the controversies surrounding avian influenza H5N1 and pandemic influenza H1N1. *PLoS Med* 7: e1000247

Fisher D *et al* (2011) Pandemic response lessons from influenza H1N1 2009 in Asia. *Respirology* 16: 876-882

Fonville JM *et al* (2014) Antibody landscapes after influenza virus infection or vaccination. *Science* 346: 996-1000

Food and Agriculture Organization of the United States, "EMPRES-i Global Animal Disease Information System," http://empres-i.fao.org/eipws3g/.

Food and Drug Administration. Annex 5: Vaccination Development and Production - Draft http://www.hsdl.org/?view&did=459937. Last Update Accessed September 15, 2015.

Food and Drug Administration. Emergency Use Authorization of Medical Products. http://www.fda.gov/RegulatoryInformation/Guidances/ucm125127.htm. Last Update October 22, 2014. Accessed November 28, 2015. Food and Drug Administration. FDA approves first seasonal influenza vaccine containing an adjuvant. FDA News Release. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm474295.htm. Last Update November 24, 2015. Accessed November 28, 2015.

Food and Drug Administration, "FDA Approved Drug Products: Drug Details, RELENZA," http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm?fuseaction=Search.DrugDetails.

Food and Drug Administration, "FDA Approved Drug Products: Drug Details, TAMIFLU," http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm?fuseaction=Search.DrugDetails.

Food and Drug Administration (2014) FDA approves Rapivab to treat flu infection. FDA News Release,

Food and Drug Administration. Guidance for Industry: Antiviral Product Development - Conducting and Submitting Virology Studies to the Agency.

http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM0709 53.pdf. Last Update June 2006. Accessed 14 October 2015.

Food and Drug Administration (2010) Guidance for Industry: Characterization and Qualification of Cell Substrates and Other Biological Materials Used in the Production of Viral Vaccines for Infectious Disease Indications.

Food and Drug Administration. Vaccine Product Approval Process.

http://www.fda.gov/BiologicsBloodVaccines/DevelopmentApprovalProcess/BiologicsLicenseApplicationsBLAProcess/ucm133096.htm. Last Update 24 August 2015. Accessed 14 September 2015.

Fraser C *et al* (2009) Pandemic Potential of a Strain of Influenza A (H1N1): Early Findings. *Science* 324: 1557-1561

Fujisaki S *et al* (2012) A single E105K mutation far from the active site of influenza B virus neuraminidase contributes to reduced susceptibility to multiple neuraminidase-inhibitor drugs. *Biochem Biophys Res Commun* 429: 51-56

Furuta Y *et al* (2002) In vitro and in vivo activities of anti-influenza virus compound T-705. *Antimicrobial agents and chemotherapy* 46: 977-981

Gao R et al (2013) Human infection with a novel avian-origin influenza A (H7N9) virus. N Engl J Med 368: 1888-1897

Ge XY *et al* (2013) Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor. *Nature* 503: 535-538

GlaxoSmithKline (2007) "Agreement to increase availability of Zanamivir supply in Asia and Lease Developed Countries," May 15, 2007, http://www.gsk-china.com/asp/News/client/newconten/515200791555.htm.

Gomaa MR *et al* (2015) Avian influenza A(H5N1) and A(H9N2) seroprevalence and risk factors for infection among Egyptians: a prospective, controlled seroepidemiological study. *J Infect Dis* 211: 1399-1407

Gottlieb T, Ben-Yedidia T (2014) Epitope-based approaches to a universal influenza vaccine. *Journal of autoimmunity* 54: 15-20

Graham RL *et al* (2012) A live, impaired-fidelity coronavirus vaccine protects in an aged, immunocompromised mouse model of lethal disease. *Nature medicine* 18: 1820-1826

Graham RL, Baric RS (2010) Recombination, reservoirs, and the modular spike: mechanisms of coronavirus cross-species transmission. *Journal of virology* 84: 3134-3146

Grandea AG, 3rd *et al* (2010) Human antibodies reveal a protective epitope that is highly conserved among human and nonhuman influenza A viruses. *Proceedings of the National Academy of Sciences of the United States of America* 107: 12658-12663

Greenbaum A *et al* (2015) Investigation of an Outbreak of Variant Influenza A(H3N2) Virus Infection Associated With an Agricultural Fair-Ohio, August 2012. *J Infect Dis*

Gruber M. Regulatory Pathways Supporting Development and Approval of Vaccines Formulated with Novel Adjuvant: Regulatory Considerations and Challenges.

http://www.fda.gov/downloads/EmergencyPreparedness/MedicalCountermeasures/UCM292045.pdf. Last Update 2012. Accessed 14 September 2015.

Gubareva LV *et al* (2001) Selection of influenza virus mutants in experimentally infected volunteers treated with oseltamivir. *J Infect Dis* 183: 523-531

Hai R et al (2013) Influenza A(H7N9) virus gains neuraminidase inhibitor resistance without loss of in vivo virulence or transmissibility. Nat Commun 4

Halabi S (2015) Obstacles to pH1N1 Vaccine Availability: the Complex Contracting Relationship between Vaccine Manufacturers, WHO, Donor and Beneficiary Governments.

Hamamoto I *et al* (2013) High yield production of influenza virus in Madin Darby canine kidney (MDCK) cells with stable knockdown of IRF7. *PloS one* 8: e59892

Hamouda AK *et al* (2014) Photoaffinity labeling of nicotinic receptors: diversity of drug binding sites! *Journal of molecular neuroscience : MN* 53**:** 480-486

Han P-F *et al* (2015) H5N1 influenza A virus with K193E and G225E double mutations in haemagglutinin is attenuated and immunogenic in mice. *Journal of General Virology* 96: 2522-2530

Hatta M et al (2001) Molecular basis for high virulence of Hong Kong H5N1 influenza A viruses. Science 293: 1840-1842

Hauge SH *et al* (2009) Oseltamivir-resistant influenza viruses A (H1N1), Norway, 2007-08. *Emerg Infect Dis* 15: 155-162

Hays K (2015) "Gilead Sues Lupin Over Plans To Produce Generic Tamiflu," Law 360

Herfst S *et al* (2012) Airborne transmission of influenza A/H5N1 virus between ferrets. *Science* 336: 1534-1541

Hien NT (2008) Avian influenza in Vietnam: situation and lessons learned. *National Institute of Hygiene and Epidemiology, Hanoi, Vietnam*

Hinman AR (2014) "Partnership for Influenza Vaccine Introduction (PIVI)," Dubai, United Arab Emirates, http://www.who.int/phi/DAY1 08 Panel2 Hinman Panel2 PIVI PM Dubai2014.pdf

Hirst GK (1942) The quantitative determination of influenza virus and antibodies by means of red cell agglutination. *The Journal of experimental medicine* 75: 49-64

Hong M *et al* (2013) Antibody Recognition of the Pandemic H1N1 Influenza Virus Hemagglutinin Receptor Binding Site. *J Virol* 87: 12471-12480

Hongthong P (2006) "Scientists produce generic Tamiflu," *The Nation*, August 4, 2006, http://www.nationmultimedia.com/2006/08/04/national/national 30010320.php.

Huang SSH *et al* (2011) Comparative Analyses of Pandemic H1N1 and Seasonal H1N1, H3N2, and Influenza B Infections Depict Distinct Clinical Pictures in Ferrets. *PLoS ONE* 6: e27512

Huang W *et al* (2015) Characteristics of oseltamivir-resistant influenza A (H1N1) pdm09 virus during the 2013-2014 influenza season in Mainland China. *Virol J* 12: 96

Huynh J *et al* (2012) Evidence supporting a zoonotic origin of human coronavirus strain NL63. Ibid. 86: 12816-12825

Identifying and addressing barriers to the emergency sharing of international public health and medical assistance. Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Meeting of Experts, Geneva, Switzerland, August 12-16, 2013,

Imai M *et al* (2012) Experimental adaptation of an influenza H5 HA confers respiratory droplet transmission to a reassortant H5 HA/H1N1 virus in ferrets. *Nature* 486: 420-428

Immunizations SWGoIVa. Influenza A (H5N1) Vaccine Stockpile and Inter-Pandemic Vaccine Use Background Document.

http://www.who.int/immunization/sage/meetings/2013/november/SAGE_WG_H5vaccine_background_paper_16Oct2013_v4.pdf. Last Update Accessed October 31, 2015.

Influenza A (H5N1) Virus Monovalent Vaccine, Adjuvanted.

http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm376289.htm. Last Update Accessed September 15, 2015.

Jang YH, Seong BL (2012) Principles underlying rational design of live attenuated influenza vaccines. *Clinical and experimental vaccine research* 1: 35-49

Japanese Times (2015) "Resistant strain of swine flu feared; virus killing thousands in India," *Japan Times*,

Jernigan DB, Cox NJ (2015) H7N9: Preparing for the Unexpected in Influenza. *Annual Review of Medicine* 66: 361-371

Jia F et al (2013) Facile Synthesis of the Neuraminidase Inhibitor Peramivir. Synthetic Communications 43: 2641-2647

Jie Z et al (2013) Family outbreak of severe pneumonia induced by H7N9 infection. Am J Respir Crit Care Med 188: 114-115

Jin H *et al* (2004) Imparting Temperature Sensitivity and Attenuation in Ferrets to A/Puerto Rico/8/34 Influenza Virus by Transferring the Genetic Signature for Temperature Sensitivity from Cold-Adapted A/Ann Arbor/6/60. *J Virol* 78: 995-998

Kaji M et al (2003) Differences in clinical features between influenza A H1N1, A H3N2, and B in adult patients. Respirology (Carlton, Vic) 8: 231-233

Kaminski MM *et al* (2013) Pandemic 2009 H1N1 influenza A virus carrying a Q136K mutation in the neuraminidase gene is resistant to zanamivir but exhibits reduced fitness in the guinea pig transmission model. *Journal of virology* 87: 1912-1915

Karlsson EA *et al* (2014) Respiratory transmission of an avian H3N8 influenza virus isolated from a harbour seal. *Nat Commun* 5

Katz JM *et al* (2000) Molecular correlates of influenza A H5N1 virus pathogenesis in mice. *Journal of virology* 74: 10807-10810

Kawaoka Y et al (1989) Avian-to-human transmission of the PB1 gene of influenza A viruses in the 1957 and 1968 pandemics. Journal of virology 63: 4603-4608

Khan SU *et al* (2015) A Systematic Review and Meta-Analysis of the Seroprevalence of Influenza A(H9N2) Infection Among Humans. *J Infect Dis* 212: 562-569

Khurana S *et al* (2010) Vaccines with MF59 adjuvant expand the antibody repertoire to target protective sites of pandemic avian H5N1 influenza virus. *Sci Transl Med* 2: 15ra15

Kim CU *et al* (1997) Influenza neuraminidase inhibitors possessing a novel hydrophobic interaction in the enzyme active site: design, synthesis, and structural analysis of carbocyclic sialic acid analogues with potent anti-influenza activity. *J Am Chem Soc* 119: 681-690

Kim JH, Jacob J (2009) DNA vaccines against influenza viruses. *Current topics in microbiology and immunology* 333: 197-210

Kim JI et al (2013) DBA/2 mouse as an animal model for anti-influenza drug efficacy evaluation. *Journal of microbiology (Seoul, Korea)* 51: 866-871

Krause JC *et al* (2011a) A broadly neutralizing human monoclonal antibody that recognizes a conserved, novel epitope on the globular head of the influenza H1N1 virus hemagglutinin. *Journal of virology* 85: 10905-10908

Kucharski AJ *et al* (2015) Transmission Potential of Influenza A(H7N9) Virus, China, 2013-2014. *Emerging infectious diseases* 21: 852-855

Kumar S *et al* (2012) US public support for vaccine donation to poorer countries in the 2009 H1N1 pandemic. *PloS one* 7: e33025

Kurtz J et al (1996) Avian influenza virus isolated from a woman with conjunctivitis. Lancet 348: 901-902

Langlois RA *et al* (2013) MicroRNA-based strategy to mitigate the risk of gain-of-function influenza studies. *Nat Biotechnol* 31: 844-847

Legrand J et al (2006) Real-time monitoring of the influenza vaccine field effectiveness. Ibid. 24: 6605-6611

Le Parisien (2010) "La France veut revendre ses vaccins contre la grippe A," [France wants to sell its vaccines against influenza A] *Le Parisien*

L'Huillier AG *et al* (2015b) E119D Neuraminidase Mutation Conferring Pan-Resistance to Neuraminidase Inhibitors in an A(H1N1)pdm09 Isolate From a Stem-Cell Transplant Recipient. *J Infect Dis*

Li FC et al (2008) Finding the real case-fatality rate of H5N1 avian influenza. Journal of epidemiology and community health 62: 555-559

Li Q et al (2014a) Epidemiology of Human Infections with Avian Influenza A(H7N9) Virus in China. *New England Journal of Medicine* 370: 520-532

Li Q et al (2015) Novel reassortant H5N5 viruses bind to a human-type receptor as a factor in pandemic risk. Vet Microbiol 175: 356-361

Li W et al (1998) Identification of GS 4104 as an orally bioavailable prodrug of the influenza virus neuraminidase inhibitor GS 4071. Antimicrob Agents Chemother 42: 647-653

Li X *et al* (2014b) Genetics, receptor binding property, and transmissibility in mammals of naturally isolated H9N2 Avian Influenza viruses. *PLoS Pathog* 10: e1004508

Liu M et al (2015a) Antigenic Patterns and Evolution of the Human Influenza A (H1N1) Virus. Sci Rep 5: 14171

Liu M *et al* (2015b) Genetic diversity of avian influenza A (H10N8) virus in live poultry markets and its association with human infections in China. *Sci Rep* 5: 7632

Lopez-Martinez I *et al* (2013b) Highly pathogenic avian influenza A(H7N3) virus in poultry workers, Mexico, 2012. Ibid. 19: 1531-1534

Lu L et al (2014) Reassortment patterns of avian influenza virus internal segments among different subtypes. BMC Evol Biol 14: 16

Magalhães RJS *et al* (2010) Evaluating the control of HPAIV H5N1 in Vietnam: virus transmission within infected flocks reported before and after vaccination. *BMC veterinary research* 6: 1

Mahony JB *et al* (2004) Performance and Cost evaluation of one commercial and six in-house conventional and real-time reverse transcription-pcr assays for detection of severe acute respiratory syndrome coronavirus. *J Clin Microbiol* 42: 1471-1476

Makkoch J *et al* (2012) Whole Genome Characterization, Phylogenetic and Genome Signature Analysis of Human Pandemic H1N1 Virus in Thailand, 2009–2012. *PloS one* 7: e51275

Manicassamy B *et al* (2010) Protection of mice against lethal challenge with 2009 H1N1 influenza A virus by 1918-like and classical swine H1N1 based vaccines. *PLoS Pathog* 6: e1000745

Martínez-Sobrido L *et al* (2010) Hemagglutinin-Pseudotyped Green Fluorescent Protein-Expressing Influenza Viruses for the Detection of Influenza Virus Neutralizing Antibodies. *Journal of virology* 84: 2157-2163

Matrosovich MN *et al* (2001) H9N2 Influenza A Viruses from Poultry in Asia Have Human Virus-like Receptor Specificity. *Virology* 281: 156-162

McNeil Jr, DG (2005) "Indian Company to Make Generic Version of Flu Drug Tamiflu," *The New York Times*

Medina RA et al (2010) Pandemic 2009 H1N1 vaccine protects against 1918 Spanish influenza virus. Nat Commun 1: 28

Meltzer MI *et al* (2015) Standardizing scenarios to assess the need to respond to an influenza pandemic. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America* 60 Suppl 1: S1-8

Middleton D *et al* (2009) Evaluation of vaccines for H5N1 influenza virus in ferrets reveals the potential for protective single-shot immunization. *Journal of virology* 83: 7770-7778

Montomoli E *et al* (2011) Current adjuvants and new perspectives in vaccine formulation. *Expert Rev Vaccines* 10: 1053-1061

Morens DM, Fauci AS (2007) The 1918 influenza pandemic: insights for the 21st century. *The Journal of infectious diseases* 195: 1018-1028

Multinational Monitor (2006) "The Tamiflu Manufacturing Controversy: An Interview with Yusuf Hamied," *Multinational Monitor* vol. 27, no. 2,

News Medical (2011) "Tamiflu- Oseltamivir Production," News Medical,

Niemcewicz M *et al* (2013) Acute respiratory distress syndrome (ARDS) in the course of influenza A/H1N1v infection--genetic aspects. *Ann Agric Environ Med* 20: 711-714

Nivitchanyong T *et al* (2011) Enhanced expression of secretable influenza virus neuraminidase in suspension mammalian cells by influenza virus nonstructural protein 1. *Journal of virological methods* 178: 44-51

Novartis. FLUAD® (MF59®-Adjuvanted Influenza Vaccine) Fact Sheet. https://www.novartis.com/sites/www.novartis.com/files/Fluad_Fact_Sheet.pdf. Last Update Accessed September 15, 2015.

O'Donnell CD *et al* (2012) Antibody pressure by a human monoclonal antibody targeting the 2009 pandemic H1N1 virus hemagglutinin drives the emergence of a virus with increased virulence in mice. *MBio* 3

OIE, World Animal Health Organization Database (WAHID), "Detailed Country(ies) disease incidence," http://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/statusdetail.

Olsen CW *et al* (2002) Serologic Evidence of H1 Swine Influenza Virus Infection in Swine Farm Residents and Employees. *Emerging infectious diseases* 8: 814-819

Olsen SJ et al (2005) Family Clustering of Avian Influenza A (H5N1). Emerging infectious diseases 11: 1799-1801

Oshitani H (2010) Influenza surveillance and control in the Western Pacific Region. Western Pacific surveillance and response journal: WPSAR 1: 3-4

Ostrowsky B *et al* (2012) Low pathogenic avian influenza A (H7N2) virus infection in immunocompromised adult, New York, USA, 2003. *Emerging infectious diseases* 18: 1128-1131

Ozawa M *et al* (2011) Replication-incompetent influenza A viruses that stably express a foreign gene. *The Journal of general virology* 92: 2879-2888

Pan M *et al* (2015) Human infection with a novel highly pathogenic avian influenza A (H5N6) virus: Virological and clinical findings. *J Infect*

Parvin JD *et al* (1986b) Measurement of the mutation rates of animal viruses: influenza A virus and poliovirus type 1. *Journal of virology* 59: 377-383

PATH, "PATH's Work in Vaccine Development: Low-cost influenza vaccine production," http://sites.path.org/vaccinedevelopment/influenza/vaccine-production-in-the-developing-world/. Accessed August 3, 2015.

Peiris M et al (1999b) Human infection with influenza H9N2. Lancet 354: 916-917

Peiris M et al (1999a) Influenza A H9N2: aspects of laboratory diagnosis. *Journal of clinical microbiology* 37: 3426-3427

Pearce MB *et al* (2012) Pathogenesis and transmission of swine origin A(H3N2)v influenza viruses in ferrets. *PNAS* 109: 3944-3949

Pearce MB *et al* (2012) Seasonal trivalent inactivated influenza vaccine protects against 1918 Spanish influenza virus infection in ferrets. *Journal of virology* 86: 7118-7125

Peng J et al (2014) The origin of novel avian influenza A (H7N9) and mutation dynamics for its human-to-human transmissible capacity. PloS one 9: e93094

People's Daily (2009) "Scientists develop ways producing anti-bird flu drug Zanamivir," People's Daily.

Pfefferle S *et al* (2009) Distant relatives of severe acute respiratory syndrome coronavirus and close relatives of human coronavirus 229E in bats, Ghana. *Emerging infectious diseases* 15: 1377-1384

Pica N *et al* (2011) The DBA.2 mouse is susceptible to disease following infection with a broad, but limited, range of influenza A and B viruses. *Journal of virology* 85: 12825-12829

Pleguezuelos O *et al* (2012) Synthetic Influenza vaccine (FLU-v) stimulates cell mediated immunity in a double-blind, randomised, placebo-controlled Phase I trial. Ibid. 30: 4655-4660

Pleguezuelos O *et al* (2015) A Synthetic Influenza Virus Vaccine Induces a Cellular Immune Response That Correlates with Reduction in Symptomatology and Virus Shedding in a Randomized Phase Ib Live-Virus Challenge in Humans. *Clinical and vaccine immunology: CVI* 22: 828-835

PR Newswire (2010) "Simcere Receives SFDA Approval to Manufacture and Sell Zanamivir in China," *Bloomberg*.

Prabakaran P et al (2006) Structure of severe acute respiratory syndrome coronavirus receptor-binding domain complexed with neutralizing antibody. The Journal of biological chemistry 281: 15829-15836

Protein Sciences. Flublok. http://www.proteinsciences.com/FVAC.htm. Last Update Accessed September 15, 2015.

Pulit-Penaloza JA *et al* (2015) Pathogenesis and Transmission of Novel Highly Pathogenic Avian Influenza H5N2 and H5N8 Viruses in Ferrets and Mice. *Journal of virology* 89: 10286-10293

Puzelli S *et al* (2014b) Human infection with highly pathogenic A(H7N7) avian influenza virus, Italy, 2013. *Emerging infectious diseases* 20: 1745-1749

Puzelli S *et al* (2005) Serological analysis of serum samples from humans exposed to avian H7 influenza viruses in Italy between 1999 and 2003. *J Infect Dis* 192: 1318-1322

Qi W *et al* (2014a) Antibodies against H10N8 avian influenza virus among animal workers in Guangdong Province before November 30, 2013, when the first human H10N8 case was recognized. *BMC medicine* 12: 205

Qi X *et al* (2013) Probable person to person transmission of novel avian influenza A (H7N9) virus in Eastern China, 2013: epidemiological investigation. *BMJ* 347: f4752

Ramos AP et al (2013b) Molecular and phylogenetic analysis of influenza A H1N1 pandemic viruses in Cuba, May 2009 to August 2010. International journal of infectious diseases: IJID: official publication of the International Society for Infectious Diseases 17: e565-567

Ramos I *et al* (2013a) H7N9 influenza viruses interact preferentially with α 2,3-linked sialic acids and bind weakly to α 2,6-linked sialic acids. *J Gen Virol* 94: 2417-2423

Ramos I et al (2015) Hemagglutinin Receptor Binding of a Human Isolate of Influenza A(H10N8) Virus. *Emerging infectious diseases* 21: 1197-1201

Ratia K et al (2008) A noncovalent class of papain-like protease/deubiquitinase inhibitors blocks SARS virus replication. Proceedings of the National Academy of Sciences of the United States of America 105: 16119-16124

Reddy D (2010) Responding to pandemic (H1N1) 2009 influenza: the role of oseltamivir. *Journal of antimicrobial chemotherapy* 65: ii35-ii40

"Report on USA implementation of Article X of the Biological and Toxin Weapons Convention," Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Meeting of Experts, Geneva, Switzerland, August 4-8, 2014, BWC/MSP/2014/MX/INF.5, p.4 para. 10. Accessed July 7, 2015.

Richard M *et al* (2015) Low Virulence and Lack of Airborne Transmission of the Dutch Highly Pathogenic Avian Influenza Virus H5N8 in Ferrets. *PloS one* 10: e0129827

Richardson SE *et al* (2004) The laboratory diagnosis of severe acute respiratory syndrome: emerging laboratory tests for an emerging pathogen. *The Clinical biochemist Reviews / Australian Association of Clinical Biochemists* 25: 133-141

Rimmelzwaan GF *et al* (2011) Use of GFP-expressing influenza viruses for the detection of influenza virus A/H5N1 neutralizing antibodies. *Vaccine* 29: 3424-3430

Roche, "Factsheet Tamiflu," November 17, 2006, p.6, http://www.roche.com/tamiflu_factsheet.pdf

Rockx B *et al* (2010) Escape from human monoclonal antibody neutralization affects in vitro and in vivo fitness of severe acute respiratory syndrome coronavirus. *The Journal of infectious diseases* 201: 946-955

Rudolph W, Ben Yedidia T (2011) A universal influenza vaccine: where are we in the pursuit of this "Holy Grail"? *Human vaccines* 7: 10-11

Russell CA et al (2014) Improving pandemic influenza risk assessment. Elife 3: e03883

Russell CA *et al* (2012) The Potential for Respiratory Droplet–Transmissible A/H5N1 Influenza Virus to Evolve in a Mammalian Host. *Science* 336: 1541-1547

Salaam-Blyther T (2009) "The 2009 Influenza Pandemic: U.S. Responses to Global Human Cases," Congressional Research Service,

https://www.acs.org/content/dam/acsorg/policy/acsonthe hill/global challenges discussions/swine flu/crs-r40588-us-responses.pdf.

Schmidt PM *et al* (2011) A Generic System for the Expression and Purification of Soluble and Stable Influenza Neuraminidase. *PLoS ONE* 6: e16284

Scholtissek C *et al* (1978) Genetic relatedness between the new 1977 epidemic strains (H1N1) of influenza and human influenza strains isolated between 1947 and 1957 (H1N1). *Virology* 89: 613-617

Sedova ES et al (2012) Recombinant influenza vaccines. Acta Naturae 4: 17-27

Severson WE *et al* (2007) Development and validation of a high-throughput screen for inhibitors of SARS CoV and its application in screening of a 100,000-compound library. *Journal of biomolecular screening* 12: 33-40

Shanghai Institute of Materia Medica, Chinese Academy of Sciences, "The New Drug Certificate for Anti-H1N1 Flu Medicine Zanamivir granted to SIMM," March 17, 2010, http://english.simm.cas.cn/rp/201003/t20100317_51500.html.

Sherring, L (2015) "HHS funds 2 experimental flu treatments." CIDRAP

Shinya K et al (2005) Characterization of a Human H5N1 Influenza A Virus Isolated in 2003. Journal of virology 79: 9926-9932

Shoji Y *et al* (2011) An influenza N1 neuraminidase-specific monoclonal antibody with broad neuraminidase inhibition activity against H5N1 HPAI viruses. *Human vaccines* 7 Suppl: 199-204

Shope RE (1931) Swine Influenza: III. Filtration Experiments and Etiology. J Exp Med 54: 373-385

Simcere, "Zanamivir," http://www.simcere.com/english/products/detail.asp?gongs_id=59&leibieid=APIs.

Singh K (2009) "Govt curbs sale of flu drug Zanamivir," The Economic Times

Skowronski DM *et al* (2012) Cross-reactive and vaccine-induced antibody to an emerging swine-origin variant of influenza A virus subtype H3N2 (H3N2v). *J Infect Dis* 206: 1852-1861

Sleeman K *et al* (2013) R292K substitution and drug susceptibility of influenza A(H7N9) viruses. *Emerging infectious diseases* 19: 1521-1524

Smith GE *et al* (2013) Development of influenza H7N9 virus like particle (VLP) vaccine: homologous A/Anhui/1/2013 (H7N9) protection and heterologous A/chicken/Jalisco/CPA1/2012 (H7N3) cross-protection in vaccinated mice challenged with H7N9 virus. *Vaccine* 31: 4305-4313

Smith GJ et al (2009b) Dating the emergence of pandemic influenza viruses. Proc Natl Acad Sci U S A 106: 11709-11712

Smith GJD *et al* (2009a) Origins and evolutionary genomics of the 2009 swine-origin H1N1 influenza A epidemic. *Nature* 459: 1122-1125

Smith DJ *et al* (2004) Mapping the Antigenic and Genetic Evolution of Influenza Virus. *Science* 305: 371-376

Songserm T et al (2006) Fatal Avian Influenza A H5N1 in a Dog. Emerg Infect Dis 12: 1744-1747

Sorrell EM *et al* (2009) Minimal molecular constraints for respiratory droplet transmission of an avianhuman H9N2 influenza A virus. *Proc Natl Acad Sci U S A* 106: 7565-7570

Stoto MA, Higdon MA (2015) *The Public Health Response to 2009 H1N1: A Systems Perspective*: Oxford University Press.

Staschke KA *et al* (1995) Molecular basis for the resistance of influenza viruses to 4-guanidino-Neu5Ac2en. *Virology* 214: 642-646

Steel J, Lowen AC (2014) Influenza A virus reassortment. *Current topics in microbiology and immunology* 385: 377-401

Stephen M. Ostroff Acting Commissioner of Food and Drugs. Letter of Authorization RealStar® MERS-CoV RT-PCR Kit U.S. .

http://www.fda.gov/downloads/MedicalDevices/Safety/EmergencySituations/UCM455348.pdf. Last Update July 17, 2015. Accessed December 2015.

Stöhr K (2013a) Influenza vaccine production. In *Textbook of Influenza*, 2nd Edition, 2nd Edition edn, pp 352-370.

Stoloff GA, Caparros-Wanderley W (2007) Synthetic multi-epitope peptides identified in silico induce protective immunity against multiple influenza serotypes. *European journal of immunology* 37: 2441-2449

Sui J et al (2008) Broadening of neutralization activity to directly block a dominant antibody-driven SARS-coronavirus evolution pathway. PLoS pathogens 4: e1000197

Sui J et al (2014) Effects of human anti-spike protein receptor binding domain antibodies on severe acute respiratory syndrome coronavirus neutralization escape and fitness. Journal of virology 88: 13769-13780

Sutton TC *et al* (2014) Airborne transmission of highly pathogenic H7N1 influenza virus in ferrets. *Journal of virology* 88: 6623-6635

Swiss Info (2005) "Roche opens Tamiflu to outside firms," *Swiss Info*, December 12, 2005, http://www.swissinfo.ch/eng/roche-opens-tamiflu-to-outside-firms/4900404.

TABLE. Influenza vaccines — United States, 2015–16 influenza season. http://www.cdc.gov/flu/protect/vaccine/vaccines.htm. Last Update Accessed September 14, 2015.

Taubenberger JK, Morens DM (2006) 1918 Influenza: the mother of all pandemics. *Emerging infectious diseases* 12: 15-22

The Task Force for Global Health, "Partnership for Influenza Vaccine Introduction," http://www.taskforce.org/our-work/projects/partnership-influenza-vaccine-introduction

The Economic Times (2007) "Ranbaxy to supply oseltamivir capsules to US," *The Economic Times*, October 21, 2007, http://articles.economictimes.indiatimes.com/2007-10-21/news/28461984_1_capsules-domestic-sales-generic-version.

The Economic Times (2015) "Swine flu: Hetero Healthcare increases Fluvir production by 400%," *The Economic Times*.

The Economist (2014) "Hard pills to swallow," The Economist,

The World Bank, "Country and Lending Groups," http://data.worldbank.org/about/country-and-lending-groups. Accessed July 7, 2015.

Thor SW *et al* (2015) Detection and characterization of Clade 1 Reassortant H5N1 viruses Isolated from human cases in Vietnam during 2013. *PloS one* 10: e0133867

Tian J *et al* (2014) Organocatalytic and Scalable Synthesis of the Anti-Influenza Drugs Zanamivir, Laninamivir, and CS-8958. *Angewandte Chemie International Edition* 53: 13885-13888

Tiensin T et al (2005) Highly pathogenic avian influenza H5N1, Thailand, 2004. Emerging infectious diseases 11: 1664-1672

Toyama Chemical Company, Ltd. Pipeline. https://www.toyama-chemical.co.jp/en/rd/pipeline/index.html. Last Update Accessed November 8, 2015.

Tran TH et al (2004) Avian influenza A (H5N1) in 10 patients in Vietnam. N Engl J Med 350: 1179-1188

Trebbien R *et al* (2011) Distribution of sialic acid receptors and influenza A virus of avian and swine origin in experimentally infected pigs. *Virology Journal* 8: 434

Trock SC *et al* (2012) Development of an influenza virologic risk assessment tool. *Avian diseases* 56: 1058-1061

Tweed SA et al (2004) Human illness from avian influenza H7N3, British Columbia. Emerging infectious diseases 10: 2196-2199

Ulmer JB *et al* (2006) Vaccine manufacturing: challenges and solutions. *Nature biotechnology* 24: 1377-1383

U.S. Department of Health and Human Services. International Influenza Vaccine Capacity Building Portfolio. https://www.medicalcountermeasures.gov/projectmaps/Who.aspx. Last Update Accessed January 26, 2016.

U.S. Department of Health and Human Services (2012) "An HHS retrospective on the 2009 H1N1influenza pandemic to advance all hazards preparedness"

U.S. Patent 5,763,483 A, "Carbocyclic Compounds," Filed December 27, 1996, Published June 9, 1998, http://www.google.com/patents/US5763483

Uyeki TM *et al* (2002) Lack of evidence for human-to-human transmission of avian influenza A (H9N2) viruses in Hong Kong, China 1999. *Emerging infectious diseases* 8: 154-159

Vaillant L et al (2009) Epidemiology of fatal cases associated with pandemic H1N1 influenza 2009. Euro surveillance: bulletin Europeen sur les maladies transmissibles = European communicable disease bulletin 14

Valleron A-J et al (2010) Transmissibility and geographic spread of the 1889 influenza pandemic. PNAS 107: 8778-8781

van der Vries E *et al* (2013) Prolonged influenza virus shedding and emergence of antiviral resistance in immunocompromised patients and ferrets. *PLoS pathogens* 9: e1003343

Van Kerkhove MD *et al* (2013) The consortium for the standardization of influenza seroepidemiology (CONSISE): a global partnership to standardize influenza seroepidemiology and develop influenza investigation protocols to inform public health policy. *Influenza Other Respir Viruses* 7: 231-234

Vincent A *et al* (2014) Review of influenza A virus in swine worldwide: a call for increased surveillance and research. *Zoonoses and public health* 61: 4-17

Visterra Pipeline. http://www.visterrainc.com/pipeline/pipeline.html. Last Update Accessed November 8, 2015.

von Itzstein M *et al* (1993) Rational design of potent sialidase-based inhibitors of influenza virus replication. *Nature* 363: 418-423

Wan H et al (2008) Replication and Transmission of H9N2 Influenza Viruses in Ferrets: Evaluation of Pandemic Potential. PloS one 3

Wan X-F et al (2008) Evolution of highly pathogenic H5N1 avian influenza viruses in Vietnam between 2001 and 2007. PloS one 3: e3462

Wang Xu (2005) "Shanghai firm wins license for generic version of Tamiflu," *China Daily*, December 13, 2005, http://www.chinadaily.com.cn/english/cndy/2005-12/13/content_502775.htm.

Watanabe T *et al* (2013) Characterization of H7N9 influenza A viruses isolated from humans. *Nature* 501: 551-555

Watanabe T *et al* (2014a) Circulating avian influenza viruses closely related to the 1918 virus have pandemic potential. *Cell Host Microbe* 15: 692-705

Watanabe T et al (2014b) Pandemic potential of avian influenza A (H7N9) viruses. Trends Microbiol 22: 623-631

Weaver J et al (2012) Initial assessment of strategic plans for improving the performance of veterinary services in developing countries: a review of OIE PVS gap analysis reports. Revue scientifique et technique (International Office of Epizootics) 31: 631-645

Webster RG et al (1982) Molecular mechanisms of variation in influenza viruses. Nature 296: 115-121

Wei CJ et al (2010) Cross-neutralization of 1918 and 2009 influenza viruses: role of glycans in viral evolution and vaccine design. Sci Transl Med 2: 24ra21

Wensing AM *et al* (2014) 2014 Update of the drug resistance mutations in HIV-1. *Topics in antiviral medicine* 22: 642-650

World Health Organization. Antigenic and Genetic Characteristics of Zoonotic Influenza Viruses and Candidate Vaccine Viruses Developed for Potential Use in Human Vaccines," *WHO*, accessed August 26, 2015, http://www.who.int/influenza/vaccines/virus/characteristics_virus_vaccines/en/.

World Health Organization. Avian Influenza Fact Sheet.

http://www.who.int/mediacentre/factsheets/avian_influenza/en/. Last Update September 2014. Accessed November 28, 2015.

World Health Organization Expert Committee on Biological Standardization. (2010) Recommendations to assure the quality, safety and efficacy of influenza vaccines (human, live attenuated) for intranasal administration. *WHO Technical Report Series No 977, 2013*. The World Health Organization,, Geneva, Switzerland pp. 163-196.

World Health Organization. Cumulative number of confirmed human cases for avian influenza A(H5N1)reported to WHO, 2003-2015.

http://www.who.int/influenza/human_animal_interface/EN_GIP_20151113cumulativeNumberH5N1cases .pdf?ua=1. Last Update November 13, 2015. Accessed November 28, 2015.

World Health Organization. Disease Outbreak News (DONs) http://www.who.int/csr/don/en/

World Health Organization. Generic Drugs. http://www.who.int/trade/glossary/story034/en/

World Health Organization. Global Health Observatory (GHO) data: Global influenza virological surveillance. http://www.who.int/gho/epidemic_diseases/influenza/virological_surveillance/en/. Accessed July 7, 2015.

World Health Organization. Global Influenza Surveillance and Response System (GISRS). http://www.who.int/influenza/gisrs_laboratory/en/. Last Update Accessed December 7, 2015.

World Health Organization. Influenza: Influenza vaccine viruses and reagents. http://www.who.int/influenza/vaccines/virus/en/. Accessed July 7, 2015.

World Health Organization. Monthly Risk Assessment Summary, Influenza at the Human-Animal Interface. http://www.who.int/influenza/human_animal_interface/HAI_Risk_Assessment/en/.

World Health Organization (2011) Biota Reports That Laninamivir Octanoate is Approved for the Prevention of Influenza in Japan. *Biota*.

World Health ORganization (2015) Influenza at the human-animal interface. Summary and assessment as of 17 July 2015.

World Health Organization (2011) *Pandemic influenza preparedness Framework for the sharing of influenza viruses and access to vaccines and other benefits* http://apps.who.int/iris/bitstream/10665/44796/1/9789241503082_eng.pdf. Accessed July 7, 2015.

World Health Organization. Process of Influenza Vaccine Virus Selection and Development http://apps.who.int/gb/pip/pdf_files/Fluvaccvirusselection.pdf. Last Update November 19, 2007. Accessed November 22, 2015.

World Health Organization (2011) Report of the Review Committee on the Functioning of the International Health Regulations (2005) in relation to Pandemic (H1N1) 2009. *Geneva: World Health Organization*

World Health Organization (2013) "Severe Acute Respiratory Syndrome (SARS)," December 1, 2013, http://www.who.int/immunization/topics/sars/en/. Accessed July 7, 2015.

World Health Organization, Technical studies under resolution WHA63.1. Final Document. http://apps.who.int/gb/pip/pdf_files/OEWG3/A_PIP_OEWG_3_2-en.pdf. Last Update April 4, 2011. Accessed January 26, 2016.

World Health Organization, "Influenza: Virus Sharing," http://www.who.int/influenza/pip/virus_sharing/en/. Accessed July 7, 2015.

World Health Organization. (2005) WHO guidelines on nonclinical evaluation of vaccines. *WHO Technical Report Series*, *No* 927, 2005, Geneva, Switzerland, pp. 32-63.

Worobey M et al (2014) Genesis and pathogenesis of the 1918 pandemic H1N1 influenza A virus. Proc Natl Acad Sci U S A 111: 8107-8112

Wrammert J *et al* (2011) Broadly cross-reactive antibodies dominate the human B cell response against 2009 pandemic H1N1 influenza virus infection. *J Exp Med* 208: 181-193

Wu CY *et al* (2004) Small molecules targeting severe acute respiratory syndrome human coronavirus. Ibid. 101: 10012-10017

Xie H *et al* (2015) H3N2 Mismatch of 2014-15 Northern Hemisphere Influenza Vaccines and Head-to-head Comparison between Human and Ferret Antisera derived Antigenic Maps. *Sci Rep* 5: 15279

Xiong X et al (2013) Receptor binding by an H7N9 influenza virus from humans. Nature 499: 496-499

Yamashita M *et al* (2009) CS-8958, a prodrug of the new neuraminidase inhibitor R-125489, shows longacting anti-influenza virus activity. *Antimicrobial agents and chemotherapy* 53: 186-192

Yang S *et al* (2014) Avian-origin influenza A(H7N9) infection in influenza A(H7N9)-affected areas of China: a serological study. *J Infect Dis* 209: 265-269

Yang Y et al (2007) Detecting human-to-human transmission of avian influenza A (H5N1). Emerging infectious diseases 13: 1348-1353

Yang Y *et al* (2015) Two Mutations Were Critical for Bat-to-Human Transmission of Middle East Respiratory Syndrome Coronavirus. Ibid. 89: 9119-9123

Yeh, BT (2007), "Influenza Antiviral Drugs and Patent Law Issues," CRS Report for Congress, August 16, 2007, p. 7, retrieved at http://www.ipmall.info/hosted_resources/crs/RL33159_070816.pdf.

Yu X *et al* (2008) Neutralizing antibodies derived from the B cells of 1918 influenza pandemic survivors. *Nature* 455: 532-536

Zhang N et al (2014) Current advancements and potential strategies in the development of MERS-CoV vaccines. Expert Rev Vaccines 13: 761-774

Zhang Q et al (2013b) H7N9 influenza viruses are transmissible in ferrets by respiratory droplet. Science (New York, NY) 341: 410-414

Zhang W et al (2015) Co-infection with Avian (H7N9) and Pandemic (H1N1) 2009 Influenza Viruses, China. Emerging infectious diseases 21: 715-718

Zhang Y *et al* (2013a) H5N1 Hybrid Viruses Bearing 2009/H1N1 Virus Genes Transmit in Guinea Pigs by Respiratory Droplet. *Science* 340: 1459-1463

Zhou EY. (2007) Vaccine development in China. Biopharmaceutical International.

Zhu H et al (2015) Origins and Evolutionary Dynamics of H3N2 Canine Influenza Virus. Journal of virology 89: 5406-5418

Zhu X *et al* (2013b) A unique and conserved neutralization epitope in H5N1 influenza viruses identified by an antibody against the A/Goose/Guangdong/1/96 hemagglutinin. *J Virol* 87: 12619-12635

Zhu Y et al (2013a) Human co-infection with novel avian influenza A H7N9 and influenza A H3N2 viruses in Jiangsu province, China. *Lancet* 381: 2134

Chapter 10

(1994) Scientist tests the public trust. Nature 371: 1

(2008) Biosecurity in UK research laboratories. *House of Commons London: The Stationery Office Limited*

(2011) "Opposition to Nuclear Power Rises Amid Japanese Crisis" The Pew Research Center

(2011) "Research cuts will force scientists to share laboratories, top academics warn," *The Guardian*, http://www.theguardian.com/science/2011/may/11/cuts-endanger-science-research-teaching

(2014) Fukushima's impact on Japans economy three years on, BBC News

Acton JM, Hibbs M (2012) Why Fukushima was preventable. Carnegie endowment report.

Anderson I (2008) Foot and mouth disease 2007: a review and lessons learned. Report to the Prime Minister and the Secretary of State for Environment Food and Rural Affairs, London, UK

Arimoto T, Sato Y (2012) "Rebuilding Public Trust in Science for Policy-Making," Science 337: 1176.

Athreye S, Kapur S (1999) Private foreign investment in India. *Birkbeck College-University of London, London*

Balakrishnan A (2008) "Farmers sue for damages in Pirbright foot-and-mouth outbreak," *The Guardian*. http://www.theguardian.com/uk/2008/oct/17/footandmouth-ruralaffairs

Basler CF et al (2001) Sequence of the 1918 pandemic influenza virus nonstructural gene (NS) segment and characterization of recombinant viruses bearing the 1918 NS genes. *Proc Natl Acad Sci U S A*. 98(5):2746-51.

Bates BR, Harris TM (2004) The Tuskegee Study of Untreated Syphilis and public perceptions of biomedical research: a focus group study. *Journal of the National Medical Association* 96: 1051

Berg P, Singer M (1995) "The recombinant DNA controversy: Twenty years later", PNAS.

Broughton E (2005) "The Bhopal disaster and its aftermath: a review," *Environmental Health: A Global Access Science Source* 4.

Brownlee GG et al (2001) The predicted antigenicity of the haemagglutinin of the 1918 Spanish influenza pandemic suggests an avian origin. *Philos Trans R Soc Lond B Biol Sci.* 356(1416):1871-6.

Butler C et al (2011) Nuclear power after Japan: The social dimensions. Environment: Science and Policy for Sustainable Development 53: 3-14

Corbie-Smith G *et al* (1999) Attitudes and beliefs of African Americans toward participation in medical research. *Journal of general internal medicine* 14: 537-546

Department of Environment, Food, and Rural Affairs (2007) "A Review of the Regulatory Framework for Handling Animal Pathogens".

Diamond S (1985) The Phopal Disaster: How it Happened, *The New York Times*. http://www.nytimes.com/1985/01/28/world/the-bhopal-disaster-how-it-happened.html?pagewanted=all

Federal Register Vol. 70, No. 202 Thursday, October 20, 2005.

Federal Register Vol. 77, No. 194. Friday, October 5, 2012.

"Foot-and-mouth cash demand fails," BBC http://news.bbc.co.uk/2/hi/uk_news/7974982.stm Last Updated March 31, 2009

Framework for Conducting Risk and Benefit Assessment of Gain-of-Function Research: Recommendations of the National Advisory Board for Biosecurity. May 2015, http://osp.od.nih.gov/sites/default/files/resources/NSABB_Framework_for_Risk_and_Benefit_Assessments_of_GOF_Research-APPROVED.pdf

Freimuth VS *et al* (2001) African Americans' views on research and the Tuskegee Syphilis Study. *Social science & medicine* 52: 797-808

Funk C, Rainie L (2015) Public and scientists' views on science and society. Pew Research Center 29

General Social Survey, NORC at the University of Chicago, http://www.norc.org/Research/Projects/Pages/general-social-survey.aspx

Gibbs MJ et al (2001) The haemagglutinin gene, but not the neuraminidase gene, of 'Spanish flu' was a recombinant. *Philos Trans R Soc Lond B Biol Sci.* 356(1416):1845-55.

Gray R (2007) "National Trust Estate Hit by Foot and Mouth," *The Telegraph*.

Green BL *et al* (1997) Participation in health education, health promotion, and health research by African Americans: effects of the Tuskegee Syphilis Experiment. *Journal of Health Education* 28: 196-201

Hagen K (2005) "Bad Blood: The Tuskegee Syphilis Study and Legacy Recruitment for Experimental AIDS Vaccines," *New Directions for Adult and Continuing Education* 105

Hatta M et al (2001) Molecular basis for high virulence of Hong Kong H5N1 influenza A viruses. *Science*: 293(5536):1840-2.

Herfst S, *et al* (2012) Airborne transmission of influenza A/H5N1 virus between ferrets. *Science*: 336(6088):1534-41.

Huckenpohler J (1994) Survey of Graduate Students and Postdoctorates in Science and Engineering: Fall 1992. Technical Notes and Data Summaries. http://www.nsf.gov/statistics/srvygradpostdoc/

Imai M, et al (2012) Experimental adaptation of an influenza H5 HA confers respiratory droplet transmission to a reassortant H5 HA/H1N1 virus in ferrets. *Nature* 486(7403):420-8.

Inajima T, Song Y (2012) \$137 Billion Cost has Tepco Seeking more Aid, Bloomberg Business.

Ipsos M (2011) Global citizen reaction to the Fukushima nuclear plant disaster. Global@ dvisor

Kaiser D. (2009) American physics and the cold war bubble. Chicago: University of Chicago Press. http://web.mit.edu/dikaiser/www/CWB.html

Kaiser J (2011) Taking stock of the biodefense boom. Science 333: 1214-1214

Kaiser J (2014) Moratorium on risky virology studies leaves work at 14 institutions in limbo. *ScienceInsider*. http://news.sciencemag.org/biology/2014/11/moratorium-risky-virology-studies-leaves-work-14-institutions-limbo

Kaplan S (2015) "Dr. Irwin Schatz, the first, lonely voice against infamous Tuskegee study, dies at 83," *The Washington Post*

Kim Y et al (2013) Effect of the Fukushima nuclear disaster on global public acceptance of nuclear energy. Energy Policy 61: 822-828

Kobasa D et al (2004) Enhanced virulence of influenza A viruses with the haemagglutinin of the 1918 pandemic virus. *Nature*. 431(7009):703-7.

Kohut A et al (2009) Scientific achievements less prominent than a decade ago: Public praises science; scientists fault public, media. Washington, DC: The Pew Research Center for the People & the Press

Kuiken T et al (2003) Newly discovered coronavirus as the primary cause of severe acute respiratory syndrome. *Lancet*: 362(9380):263-70

Logan P (2007) Final report on potential breaches of biosecurity at the Pirbright site 2007. *Health and Safety Executive*

Malik A (2014) "30 Years After the Bhopal Disaster, India had not Learned the Lessons of the World's Worst Industrial Tragedy," *International Business Times*.

Mannan M, et. al. (2005) "The legacy of Bhopal: The impact over the last 20 years and future direction," *Journal of Loss Prevention in the Process Industries* 18: 221.

National Science Foundation "Survey of Graduate Students and Postdoctorates in Science and Engineering" http://www.nsf.gov/statistics/srvvgradpostdoc/

O'Neill E et al (2000) Heterologous protection against lethal A/HongKong/156/97 (H5N1) influenza virus infection in C57BL/6 mice. *J Gen Virol*. 81(Pt 11):2689-96

Perkiss A (2008) "Public Accountability and the Tuskegee Syphilis Experiments: A Restorative Justice Approach," *Journal of African American Law and Policy* 70: 72-73.

Pfeiffer JK (2015) Is the Debate and "Pause" on Experiments That Alter Pathogens with Pandemic Potential Influencing Future Plans of Graduate Students and Postdoctoral Fellows? *mBio* 6(1): e02525-14.

Reid AH et al (1999) Origin and evolution of the 1918 "Spanish" influenza virus hemagglutinin gene. *Proc Natl Acad Sci U S A*. 96(4):1651-6.

Reid AH et al (2000) Characterization of the 1918 "Spanish" influenza virus matrix gene segment. *Proc Natl Acad Sci U S A* 97(12):6785-90.

Reid AH et al (2002) Characterization of the 1918 "Spanish" influenza virus matrix gene segment. *J Virol.* 76(21):10717-23.

Reid AH et al (2003) 1918 influenza pandemic caused by highly conserved viruses with two receptor-binding variants. *Emerg Infect Dis.* 9(10):1249-53.

Reid AH et al (2003) Relationship of pre-1918 avian influenza HA and NP sequences to subsequent avian influenza strains. *Avian Dis.* 47(3 Suppl):921-5.

Reid AH et al (2004) Novel origin of the 1918 pandemic influenza virus nucleoprotein gene. *J Virol*. 78(22):12462-70.

Rhodes, K (2007) HIGH-CONTAINMENT BIOSAFETY LABORATORIES

Preliminary Observations on the Oversight of the Proliferation of BSL-3 and BSL-4 Laboratories in the United States. US Government Accountability Office http://www.gao.gov/products/GAO-08-108T

Rockey, S (2014) FY2013 By The Numbers: Research Applications, Funding, and Awards. NIH Office of Extramural Research

Rousseau, D.M., Sitkin, S.B., Burt, R.S., and Camerer, C., Not So Different AfterAll: A Cross-Discipline View of Trust, "Academy of Management, July 1, 1998, 23(3): 393-404,

Sengupta S, et. al. (2000) "Factors Affecting African-American Participation in AIDS Research," *Journal of Acquired Immune Deficiency Syndromes* 24: 275-284.

Shavers VL *et al* (2000) Knowledge of the Tuskegee study and its impact on the willingness to participate in medical research studies. *Journal of the National Medical Association* 92: 563

Shooter RA (1980) Report of the Investigation Into the Cause of the 1978 Birmingham Smallpox Occurrence: Return to an Order of the Honourable The House of Commons Dated 22nd July, 1980: HM Stationery Office.

Siegrist M, Visschers V (2013) "Acceptance of Nuclear Power: The Fukushima Effect," *Energy Policy* 59: 112.

Smith S (2005) "BU delayed reporting possibly lethal exposure," Boston Globe

"Spending Review 2010: Key points at-a-glance," BBC. http://www.bbc.com/news/uk-politics-11569160 Last Updated October 21, 2010

"Spending Review: Pirbright research lab escapes cuts," BBC. http://www.bbc.com/news/uk-england-surrey-11588361 Last Updated December 20, 2010

Spitzer K (2015) "250,000 japanese still displaced 4 years after quake, USA Today.

Taubenberger JK et al (2001) Integrating historical, clinical and molecular genetic data in order to explain the origin and virulence of the 1918 Spanish influenza virus. *Philos Trans R Soc Lond B Biol Sci*. 356(1416):1829-39.

The Centers for Disease Control and Prevention. Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Middle East Respiratory Syndrome Coronavirus (MERS-CoV) – Version 2 last updated: June 18, 2015 http://www.cdc.gov/coronavirus/mers/guidelines-lab-biosafety.html

The Centers for Disease Control and Prevention. Interim Risk Assessment and Biosafety Level Recommendations for Working With Influenza A(H7N9) Viruses, last updated: January 26, 2016 http://www.cdc.gov/flu/avianflu/h7n9/risk-assessment.htm

The Centers for Disease Control and Prevention (2004) Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS) http://www.cdc.gov/sars/guidance/f-lab/index.html

"The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act 1987 (Act 20 of 1987)"

The National Diet of Japan (2012) "The Official Report of the Fukushima Nuclear Accident Independent Investigation Commission,": 9.

The Pirbright Institute (2016) "Pirbright Redevelopment. http://www.research.pirbright.ac.uk/redevelopment/

The World Bank. "Foreign direct investment, net inflows (BoP, current US\$)" http://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD/countries Accessed 2015

Thomas SB, Quinn SC (1991) The Tuskegee Syphilis Study, 1932 to 1972: implications for HIV education and AIDS risk education programs in the black community. *American journal of public health* 81: 1498-1505

Tumpey TM et al (2004) Pathogenicity and immunogenicity of influenza viruses with genes from the 1918 pandemic virus. *Proc Natl Acad Sci U S A*. 101(9):3166-71. Epub 2004 Feb 12.

Tumpey TM et al (2005) Characterization of the reconstructed 1918 Spanish influenza pandemic virus. *Science*: 10(5745):77-80.

- U.S. Department of Education, National center for Education Statistics, "Table 322.10. Bachelor's degrees conferred by postsecondary institutions, by field of study: Selected years, 1970-71 through 2011-12," https://nces.ed.gov/programs/digest/d13/tables/dt13_322.10.asp
- U.S. Department of Education, National Center for Education Statistics, "Table 323.10. Master's degrees conferred by postsecondary institutions, by field of study: Selected years, 1970-71 through 2012-13," https://nces.ed.gov/programs/digest/d14/tables/dt14_323.10.asp
- U.S. Department of Education, National Center for Education Statistics, "Table 324.10. Doctor's degrees conferred by postsecondary institutions, by field of study: Selected years, 1970-71 through 2012-13," https://nces.ed.gov/programs/digest/d14/tables/dt14_324.10.asp
- U.S. Department of Labor, Bureau of Labor Statistics "Occupational Outlook Handbook," Washington DC, http://search.lib.virginia.edu/catalog/000046071
- U.S. Environmental Protection Agency (2007) "The Plain English Guide to the Clean Air Act": 17.

Web of Science. https://isiknowledge.com/

World Health Organization (2004) China Confirms SARS infection in another previous reported case; summary of cases to date—Update 5.

Young A, Penzenstadler N (2015) Inside America's secretive biolabs

Chapter 14

Ascone D *et al* (2009) An examination of driver distraction as recorded in NHTSA databases. *National Highway Traffic Safety Administration (NHTSA)*, http://www-nrd.nhtsa.dot.gov/Pubs/811216.pdf. Accessed July 1, 2015.

Benger JR, Lyburn ID (2003) "What is the effect of reporting all emergency department radiographs?," Emergency Medicine Journal: 40-43,

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1726029/pdf/v020p00040.pdf. Accessed August 3, 2015.

Boring RL, Gertman DI (2004) Human error and available time in SPAR-H. In *Workshop on Temporal Aspects of Work for HCI, CHI*.

Brown A, Patterson DA (2001) To err is human. In *Proceedings of the First Workshop on evaluating and architecting system dependability (EASY'01)*.

Centers for Disease Control and Prevention (2015) "Inpatient Surgery," http://www.cdc.gov/nchs/fastats/inpatient-surgery.htm. Accessed July 1, 2015.

Centers for Disease Control and Prevention. Interim Risk Assessment and Biosafety Level Recommendations for Working With Influenza A(H7N9) Viruses, last updated: January 26, 2016 http://www.cdc.gov/flu/avianflu/h7n9/risk-assessment.htm

Chandler F, et. al. (2010) "NASA Human Error Analysis," http://www.hq.nasa.gov/office/codeq/rm/docs/hra.pdf. Accessed August 3, 2015.

Comer M et al (1984) Generating Human Reliability Estimates Using Expert Judgment. Volume 2. Appendices: Albuquerque, NM: Sandia National Laboratories.

Cromeans TL *et al* (2010) Inactivation of adenoviruses, enteroviruses, and murine norovirus in water by free chlorine and monochloramine. *Applied and environmental microbiology* 76: 1028-1033

Fong T-T *et al* (2010) Quantitative detection of human adenoviruses in wastewater and combined sewer overflows influencing a Michigan river. *Applied and environmental microbiology* 76: 715-723

Fraser C *et al* (2011) Influenza transmission in households during the 1918 pandemic. *American journal of epidemiology* 174**:** 505-514

Garibay A, Young J (2013) "Reducing General Aviation Accidents By Utilizing Airline Operational Strategies," Aviation Technology Graduate Student Publications, Paper 25: 6,

Hannaman G, Spurgin A (1984) Systematic human action reliability procedure (SHARP). NUS Corp., San Diego, CA (USA)

Harris TE (2002) The theory of branching processes: Courier Corporation.

HSE UK. Failure Rate and Event Data for use within Risk Assessments. http://www.hse.gov.uk/landuseplanning/failure-rates.pdf. Last Update June 28th 2012. Accessed November 23rd 2015.

Kohn LT et al (2000) To err is human:: building a Safer Health System, Vol. 6: National Academies Press.

Le Bot P (2004) Human reliability data, human error and accident models—illustration through the Three Mile Island accident analysis. *Reliability Engineering & system safety* 83: 153-167

Lloyd-Smith JO *et al* (2005) Superspreading and the effect of individual variation on disease emergence. *Nature* 438: 355-359

Lucio-Forster A *et al* (2006) Inactivation of the avian influenza virus (H5N2) in typical domestic wastewater and drinking water treatment systems. *Environmental engineering science* 23: 897-903

Marx D (2001) "Patient Safety and the "Just Culture": A Primer for Health Care Executives," NIH National Heart, Lung, and Blood Institute

http://www.safer.healthcare.ucla.edu/safer/archive/ahrq/FinalPrimerDoc.pdf. Accessed July 1, 2015.

Maurino D (2000) "Human Factors and Safety Management: The Role of the Regulator," Flight Safety and Human Factors – ICAO, 14th Annual FAA/CAA/TC Human Factors in Aviation Maintenance Symposium, Vancouver, Canada.

http://www.faa.gov/about/initiatives/maintenance_hf/library/documents/media/mx_faa_%28formerly_hfs kyway%29/14th_symposium/human_factors_and_safety_management_the_role_of_the_regulator.pdf. Accessed July 1, 2015.

Mossong J et al (2008) Social contacts and mixing patterns relevant to the spread of infectious diseases. PLoS medicine 5: e74

Rice EW et al (2007) Chlorine inactivation of highly pathogenic avian influenza virus (H5N1). Emerging infectious diseases 13: 1568-1570

Shappell SA *et al* (2006) Human error and commercial aviation accidents: A comprehensive, fine-grained analysis using HFACS. DTIC Document

Shappell S, Wiegmann D (2004) HFACS analysis of military and civilian aviation accidents: A North American comparison. In *Proceedings of the Annual Meeting of the International Society of Air Safety Investigators*.

Shelton CP. (2010) Human interface/human error.

Spurgin AJ (2009) Human reliability assessment theory and practice: CRC press.

Swain AD, Guttmann HE (1983) Handbook of human-reliability analysis with emphasis on nuclear power plant applications. Final report. *Sandia National Labs*.

Sztruhár D *et al* (2002) Comprehensive assessment of combined sewer overflows in Slovakia. *Urban Water* 4: 237-243

Tchobanoglous G, et al (1994) Wastewater engineering 4th Ed. Metcalf and Eddy

The Coldbrisk (2013) Wasterwater Treatment Plant Tour https://youtu.be/tU416enJAes Last Updated December 9, 2013

- U.S. Department of Labor, Bureau of Labor Statistics, "Occupational Injuries/Illnesses and Fatal Injuries Profiles," http://data.bls.gov/gqt/InitialPage on July 16, 2015.
- U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (2011), "Top Consequence 2005-2009: Hazardous Materials by Commodities & Failure Modes," Issue 3

Chapter 15

Peecrp отечественных поставщиков товаров фармацевтической и медицинской промышленности. [Register of domestic suppliers of goods Pharmaceutical and Medical Industries], March 13, 2015,

贾飞, 陈良柱, 陈建新, 孙平华, 陈卫民,"帕拉米韦合成路线图解,"中国医药工业杂志 42 no. 12 (2011): 954-956. [JIA Fei, CHEN Jianxin, SUN Pinghua, CHEN Weimin, "Graphical Synthetic Routes of Peramivir," *Chinese Journal of Pharmaceuticals* 42, no. 12 (2011)

顾轶娜,林东海,"新型抗流感病毒神经氨酸酶抑制剂帕拉米韦研究进展,"中国生化药物杂志 30, no. 4 (2009): 273-276 [GU Yi-na, LIN Dong-Hai, "Research progress on peramivir as a novel anti-influenza virus neuraminidase inhibitor," *Chinese Journal of Biochemical Pharmaceutics* 30 no. 4 (2009): 273-276.].

- (2005) Calls for more money as the threat looms ever larger. *The Economist* http://www.economist.com/node/5134571
- (2005) Cipla MD favours compulsory licensing sans monopoly. The Hindu Business Line http://www.thehindubusinessline.com/todays-paper/tp-corporate/cipla-md-favours-compulsory-licensing-sans-monopoly/article2195410.ece
- (2005) Roche grants Tamiflu licence to Hetero Drugs. The Times of India
- (2005) "Roche licenses China firm to produce Tamiflu," China Daily, December 12, 2005
- (2005) Roche opens Tamiflu to outside firms," Swiss Info
- (2006) High levels of adamantane resistance among influenza A (H3N2) viruses and interim guidelines for use of antiviral agents--United States, 2005-06 influenza season. *MMWR Morb Mortal Wkly Rep* 55: 44-46
- (2006) The Tamiflu Manufacturing Controversy: An Interview with Yusuf Hamied. *Multinational Monitor* 27: 2
- (2006) Viet Nam to Produce Tamiflu from Star Aniseed. Talk Vietnam
- (2007) Ranbaxy to supply oseltamivir capsules to US. The Economic Times
- (2007) Tasly Holding Group Co. Ltd., Setting up flu vaccine base in Tianjin. Research In China
- (2010) La France veut revendre ses vaccins contre la grippe A. [France wants to sell its vaccines against influenza A] *Le Parisien*
- (2010) Two Chinese Drug Makers Halt Production/ CRI English
- (2014) Hard pills to swallow. The Economist
- (2014) Vaccine factory to restart construction. Bangkok Post

(2015r) Rapid Medical Countermeasure Response to Infectious Diseases: Enabling Sustainable Capabilities Through Ongoing Public- and Private-Sector Partnerships: Workshop Summary. The National Academies Press.

(2015) Swine flu: Hetero Healthcare increases Fluvir production by 400%. The Economic Times

Abed Y et al (2006) Impact of neuraminidase mutations conferring influenza resistance to neuraminidase inhibitors in the N1 and N2 genetic backgrounds. Antiviral therapy 11: 971-976

Adar Y et al (2009) A universal epitope-based influenza vaccine and its efficacy against H5N1. Vaccine 27: 2099-2107

Agnihothram S *et al* (2014) A mouse model for Betacoronavirus subgroup 2c using a bat coronavirus strain HKU5 variant. *mBio* 5: e00047-00014

AHI Facility (2011) Facility supports a coordinated and effective response to H5N1 in Lao PDR (English) *The World Bank*

Ampofo WK *et al* (2013a) Strengthening the influenza vaccine virus selection and development process: outcome of the 2nd WHO Informal Consultation for Improving Influenza Vaccine Virus Selection held at the Centre International de Conferences (CICG) Geneva, Switzerland, 7 to 9 December 2011. *Vaccine* 31: 3209-3221

Amson Vaccines & Amson Pharma (PVT) LTD., "Product Profile," http://www.amson.org.pk/products.html.

An L et al (2014) Screening and identification of inhibitors against influenza A virus from a US drug collection of 1280 drugs. *Antiviral research* 109: 54-63

Assiri A *et al* (2013) Epidemiological, demographic, and clinical characteristics of 47 cases of Middle East respiratory syndrome coronavirus disease from Saudi Arabia: a descriptive study. *The Lancet Infectious diseases* 13: 752-761

Babu Y.S. et al., "BCX-1812 (RWJ-270201): discovery of a novel, highly potent, orally active, and selective influenza neuraminidase inhibitor through structure-based drug design," *Journal of Medical Chemistry* 43, no. 19 (2000): p. 3482-3486.

Baek YH *et al* (2015) Profiling and characterization of influenza virus N1 strains potentially resistant to multiple neuraminidase inhibitors. *Journal of virology* 89: 287-299

Bahgat MM *et al* (2011) Inhibition of lung serine proteases in mice: a potentially new approach to control influenza infection. *Virology journal* 8: 27

Baker SF *et al* (2014) Influenza A and B virus intertypic reassortment through compatible viral packaging signals. *Journal of virology* 88: 10778-10791

Baric RS *et al* (1999) Persistent infection promotes cross-species transmissibility of mouse hepatitis virus. *Journal of virology* 73: 638-649

Barman S *et al* (2015) Egg-adaptive mutations in H3N2v vaccine virus enhance egg-based production without loss of antigenicity or immunogenicity. *Vaccine* 33: 3186-3192

Baz M *et al* (2006) Characterization of Multidrug-Resistant Influenza A/H3N2 Viruses Shed during 1 Year by an Immunocompromised Child. *Clin Infect Dis* 43: 1555-1561

Baz M *et al* (2010) Effect of the neuraminidase mutation H274Y conferring resistance to oseltamivir on the replicative capacity and virulence of old and recent human influenza A(H1N1) viruses. *J Infect Dis* 201: 740-745

Baz M et al (2013) H5N1 vaccines in humans. Virus Res 178: 78-98

Beare AS *et al* (1975) Trials in man with live recombinants made from A/PR/8/34 (H0 N1) and wild H3 N2 influenza viruses. *Lancet* 2: 729-732

Becker MM *et al* (2008) Synthetic recombinant bat SARS-like coronavirus is infectious in cultured cells and in mice. *Proceedings of the National Academy of Sciences of the United States of America* 105: 19944-19949

Bedford T *et al* (2014) Integrating influenza antigenic dynamics with molecular evolution. *Elife* 3: e01914

Belser JA *et al* (2011) The ferret as a model organism to study influenza A virus infection. *Disease models & mechanisms* 4: 575-579

Belshe RB (2005) The origins of pandemic influenza--lessons from the 1918 virus. *The New England journal of medicine* 353: 2209-2211

Biota Pharmaceuticals, Inc (2014) "Biota Provides Update on BARDA Contract for Laninamivir Octanoate," http://investors.biotapharma.com/releasedetail.cfm?releaseid=846423.

Blick TJ *et al* (1998) The interaction of neuraminidase and hemagglutinin mutations in influenza virus in resistance to 4-guanidino-Neu5Ac2en. Ibid. 246: 95-103

Bloom JD *et al* (2010) Permissive secondary mutations enable the evolution of influenza oseltamivir resistance. *Science* (*New York*, *NY*) 328: 1272-1275

Bloom JD, Glassman MJ (2009) Inferring Stabilizing Mutations from Protein Phylogenies: Application to Influenza Hemagglutinin. *PLoS Comput Biol* 5

Bloomberg (2015) Resistant strain of swine flu feared; virus killing thousands in India," Japan Times

Bodewes R *et al* (2013) In vitro assessment of the immunological significance of a human monoclonal antibody directed to the influenza a virus nucleoprotein. *Clinical and vaccine immunology : CVI* 20: 1333-1337

Boivin G (2013) Detection and management of antiviral resistance for influenza viruses. *Influenza and Other Respiratory Viruses* 7: 18-23

Boltz DA et al (2006) H5N1 influenza viruses in Lao People's Democratic Republic. Emerging infectious diseases 12: 1593

Boon AC *et al* (2009) Host genetic variation affects resistance to infection with a highly pathogenic H5N1 influenza A virus in mice. *Journal of virology* 83: 10417-10426

Borse RH *et al* (2013) Effects of vaccine program against pandemic influenza A(H1N1) virus, United States, 2009-2010. *Emerging infectious diseases* 19: 439-448

Bottcher-Friebertshauser E *et al* (2014) The hemagglutinin: a determinant of pathogenicity. *Current topics in microbiology and immunology* 385: 3-34

Bresee J. (2013) "Global Action Plan for Influenza Vaccines – II: CDC's Supportive Activities," GAP-II Partners Meeting, Dubai, United Arab Emirates

Bright R. (2011) Review of New Vaccine Platforms and Influenza Vaccine Pipeline. http://www.who.int/influenza_vaccines_plan/resources/bright.pdf. Last Update Accessed September 15, 2015.

Bryant J (2015) "Influenza vaccine manufacturing in Viet Nam: Report on the APACI Satellite session," *One Health* http://onehealth.org.vn/influenza-vaccine-manufacturing-in-viet-namreport-on-the-apaci-satellite-session.new. Accessed October 29, 2015.

Bussey KA *et al* (2010) PB2 residue 271 plays a key role in enhanced polymerase activity of influenza A viruses in mammalian host cells. *Journal of virology* 84: 4395-4406

Butantan Institute (2015) "Butantan Institute Influenza Vaccine Production," poster presented at the Eighth Meeting with International Partners on Prospects for Influenza Vaccine Technology Transfer to Developing Country Vaccine Manufacturers, Sao Paulo, Brazil, March 17-18, 2015, http://www.who.int/phi/8thPartnersMtg2015_Butantan_poster.pdf

Caton AJ *et al* (1982) The antigenic structure of the influenza virus A/PR/8/34 hemagglutinin (H1 subtype). *Cell* 31: 417-427

Centers for Disease Control and Prevention (CDC), "Influenza Division International Activities, Fiscal Years 2012 & 2013 Annual Report," p. 121, http://www.cdc.gov/flu/pdf/international/program/2012-2013-intl-program-report.pdf. Accessed August 3, 2015.

Centers for Disease Control and Prevention (CDC), "Laos and Nicaragua Protect High-Risk Persons from Influenza, with Help from Donor Coalition and CDC," http://www.cdc.gov/flu/international/highlight-high-risk.htm Last Updated June 18, 2013

Centers for Disease Control and Prevention (CDC) (2015) "Middle East Respiratory Syndrome (MERS)," http://www.cdc.gov/coronavirus/mers/about/prevention.html. Accessed July 7, 2015.

Centers for Disease Control and Prevention, Advisory Committee on Immunization Practices (ACIP) Recommends Universal Annual Influenza Vaccination. http://www.cdc.gov/media/pressrel/2010/r100224.htm. Last Update Accessed September 15, 2015.

Centers for Disease Control and Prevention. 2009 H1N1 Flu. http://www.cdc.gov/h1n1flu/. Last Update Accessed September 15, 2015.

Centers for Disease Control and Prevention. Influenza Antiviral Medications: Summary for Clinicians. http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm. Last Update November 3, 2015. Accessed November 28, 2015.

Centers for Disease Control and Prevention. TABLE. Influenza vaccines — United States, 2015–16 influenza season. http://www.cdc.gov/flu/protect/vaccine/vaccines.htm. Last Update Accessed September 14, 2015.

Centers for Disease Control and Prevention. Use of Antivirals. Background and Guidance on the Use of Influenza Antiviral Agents. http://www.cdc.gov/flu/professionals/antivirals/antiviral-use-influenza.htm. Last Update February 25, 2015. Accessed November 28, 2015.

Centers for Disease Control and Prevention. Vaccine Adjuvants. http://www.cdc.gov/vaccinesafety/concerns/adjuvants.html. Last Update Accessed September 15, 2015.

Centers for Disease Control and Prevention. What You Should Know for the 2015-2016 Influenza Season. http://www.cdc.gov/flu/about/season/flu-season-2015-2016.htm. Last Update Accessed September 15, 2015.

ChangSheng, "Influenza Split Vaccine," http://www.cs-vaccine.com/en/cp_page.asp?id=328

Chanlett-Avery E *et al* (2006) International Efforts to Control the Spread of the Avian Influenza (H5N1) Virus: Affected Countries' Responses

Chen BJ *et al* (2007) Influenza virus hemagglutinin and neuraminidase, but not the matrix protein, are required for assembly and budding of plasmid-derived virus-like particles. *Journal of virology* 81: 7111-7123

Chen W et al (2005) SARS-associated coronavirus transmitted from human to pig. Emerging infectious diseases 11: 446-448

Cheung CY *et al* (2002) Induction of proinflammatory cytokines in human macrophages by influenza A (H5N1) viruses: a mechanism for the unusual severity of human disease? *Lancet* 360: 1831-1837

Chien K, Tripathy D (2009) "China, India drug firms say primed for swine flu," Reuters

China Commodity Net, "Shenzhen Neptunus Interlong Bio-technique Co., Ltd. – Subunit Influenza Vaccine," http://ccne.mofcom.gov.cn/493005

Chinese SMEC (2004) Molecular evolution of the SARS coronavirus during the course of the SARS epidemic in China. *Science* 303: 1666-1669

Cho D. Regulatory Pathways for Registration of Seasonal and Pandemic Influenza Vaccines: FDA Approach. http://www.who.int/phi/Day2_2_Cho_FDA_approach_Flu_vax_PM_Dubai2013.pdf. Last Update 19 March 2013. Accessed 14 September 2015

Chotpitayasunondh T et al (2005) Human disease from influenza A (H5N1), Thailand, 2004. Emerging infectious diseases 11: 201-209

Clementi N et al (2011) A human monoclonal antibody with neutralizing activity against highly divergent influenza subtypes. PloS one 6: e28001

Cohen KA *et al* (1991) Characterization of the binding site for nevirapine (BI-RG-587), a nonnucleoside inhibitor of human immunodeficiency virus type-1 reverse transcriptase. *The Journal of biological chemistry* 266: 14670-14674

Council of State and Territorial Epidemiologists (2013) CSTE List of Nationally Notifiable Conditions. https://c.ymcdn.com/sites/cste.site-ym.com/resource/resmgr/CSTENotifiableConditionListA.pdf. Last Update August 2013. Accessed November 6, 2015.

Cox NJ et al (2014) Pandemic preparedness and the Influenza Risk Assessment Tool (IRAT). Current topics in microbiology and immunology 385: 119-136

Dalian Aleph Biomedical Co., Ltd.," *CMO CRO*, http://www.cmocro.com/company/Dalian+Aleph+Biomedical+Co.,+Ltd./index.html.

Damjanovic D *et al* (2012) Immunopathology in influenza virus infection: uncoupling the friend from foe. *Clinical immunology* 144: 57-69

Davis CT *et al* (2014) Use of highly pathogenic avian influenza A(H5N1) gain-of-function studies for molecular-based surveillance and pandemic preparedness. *MBio* 5

De Franco M, Kalil J (2014) The Butantan Institute: History and Future Perspectives. *PLOS Negl Trop Dis* 8: e2862

de Wilde AH *et al* (2014) Screening of an FDA-approved compound library identifies four small-molecule inhibitors of Middle East respiratory syndrome coronavirus replication in cell culture. *Antimicrobial agents and chemotherapy* 58: 4875-4884

Deming D *et al* (2006) Vaccine efficacy in senescent mice challenged with recombinant SARS-CoV bearing epidemic and zoonotic spike variants. *PLoS medicine* 3: e525

Deng X et al (2014) A chimeric virus-mouse model system for evaluating the function and inhibition of papain-like proteases of emerging coronaviruses. *Journal of virology* 88: 11825-11833

Dengler L et al (2012) Immunization with live virus vaccine protects highly susceptible DBA/2J mice from lethal influenza A H1N1 infection. Virology journal 9: 212

Developing Countries Vaccine Manufacturers Network (2015) "DCVMN Directory 2015," http://www.dcvmn.org/IMG/pdf/directory.pdf. Accessed November 15, 2015.

Dharan NJ et al (2009) Infections with oseltamivir-resistant influenza A(H1N1) virus in the United States. JAMA 301: 1034-1041

Dijkman R *et al* (2013) Isolation and characterization of current human coronavirus strains in primary human epithelial cell cultures reveal differences in target cell tropism. *Journal of virology* 87: 6081-6090

McNeil Jr, DG (2005) "Indian Company to Make Generic Version of Flu Drug Tamiflu," *The New York Times*

Dormitzer PR (2014) Synthetic Influenza Vaccine Viruses. *Session 5*. National Academy of Sciences Symposium on Potential Risks and Benefits of Gain of Function Research

Dowling B. Protein Sciences' N.Y. Factory Licensed For Flu Vaccine Production. http://www.courant.com/business/hc-protein-sciences-pearl-river-approval-20150513-story.html. Last Update 13 May 2015. Accessed 14 September 2015.

Droebner K et al (2011) Antiviral activity of the MEK-inhibitor U0126 against pandemic H1N1v and highly pathogenic avian influenza virus in vitro and in vivo. Antiviral research 92: 195-203

Du X et al (2012) Mapping of H3N2 influenza antigenic evolution in China reveals a strategy for vaccine strain recommendation. *Nat Commun* 3: 709

Dyall J *et al* ibid.Repurposing of clinically developed drugs for treatment of Middle East respiratory syndrome coronavirus infection. 4885-4893

Easterbrook JD *et al* (2011) Immunization with 1976 swine H1N1- or 2009 pandemic H1N1-inactivated vaccines protects mice from a lethal 1918 influenza infection. *Influenza Other Respir Viruses* 5: 198-205

Eckerle LD *et al* (2007) High fidelity of murine hepatitis virus replication is decreased in nsp14 exoribonuclease mutants. *Journal of virology* 81: 12135-12144

EffacttPharm (2015) "Research Progress," http://www.effecttpharm.com/yifang_e.html

Ekiert DC *et al* (2011) A highly conserved neutralizing epitope on group 2 influenza A viruses. *Science* (*New York, NY*) 333: 843-850

Enjuanes L et al (2008) Vaccines to prevent severe acute respiratory syndrome coronavirus-induced disease. Virus research 133: 45-62

Everitt AR *et al* (2012) IFITM3 restricts the morbidity and mortality associated with influenza. *Nature* 484: 519-523

Fisher D *et al* (2011) Pandemic response lessons from influenza H1N1 2009 in Asia. *Respirology* 16: 876-882

Feng E *et al* (2013) Structure-based design and synthesis of C-1-and C-4-modified analogs of zanamivir as neuraminidase inhibitors. *Journal of medicinal chemistry* 56: 671-684

Fett C *et al* (2013) Complete protection against severe acute respiratory syndrome coronavirus-mediated lethal respiratory disease in aged mice by immunization with a mouse-adapted virus lacking E protein. *Journal of virology* 87: 6551-6559

Fidler DP (2010) Negotiating equitable access to influenza vaccines: global health diplomacy and the controversies surrounding avian influenza H5N1 and pandemic influenza H1N1. *PLoS Med* 7: e1000247

Fisher D *et al* (2011) Pandemic response lessons from influenza H1N1 2009 in Asia. *Respirology* 16: 876-882

Fonville JM *et al* (2014) Antibody landscapes after influenza virus infection or vaccination. *Science* 346: 996-1000

Food and Agriculture Organization of the United States, "EMPRES-i Global Animal Disease Information System," http://empres-i.fao.org/eipws3g/

Food and Drug Administration. Annex 5: Vaccination Development and Production - Draft http://www.hsdl.org/?view&did=459937. Last Update Accessed September 15, 2015.

Food and Drug Administration (2015) FDA approves first seasonal influenza vaccine containing an adjuvant. FDA News Release.

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm474295.htm. Last Update November 24, 2015. Accessed November 28, 2015.

Food and Drug Administration (2006) Guidance for Industry: Antiviral Product Development - Conducting and Submitting Virology Studies to the Agency.

http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatory

Information/Guidances/UCM070953.pdf. Last Update June 2006. Accessed 14 October 2015.

Food and Drug Administration (2010) Guidance for Industry: Characterization and Qualification of Cell Substrates and Other Biological Materials Used in the Production of Viral Vaccines for Infectious Disease Indications

http://www.fda.gov/downloads/biologicsbloodvaccines/guidancecomplianceregulatoryinformation/guidances/

vaccines/ucm202439.pdf. Accessed September 15, 2015.

Food and Drug Administration Influenza A (H5N1) Virus Monovalent Vaccine, Adjuvanted. http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm376289.htm. Last Update February 26, 2015 Accessed September 15, 2015.

Food and Drug Administration (2015) Product Development Under the Animal Rule: Guidance for Industry.

http://www.fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm399217.p df. Last Update October 2015. Accessed November 23, 2015.

Food and Drug Administration. Vaccine Product Approval Process.

http://www.fda.gov/BiologicsBloodVaccines/DevelopmentApprovalProcess/BiologicsLicenseApplication sBLAProcess/ucm133096.htm. Last Update 24 August 2015. Accessed 14 September 2015.

FosunPharma, "产业布局 > 核心产品 > 疫苗," ["Industrial Distribution – Core Products – Vaccine"] http://www.fosunpharma.com/products/ym

Frieman M *et al* (2012) Molecular determinants of severe acute respiratory syndrome coronavirus pathogenesis and virulence in young and aged mouse models of human disease. *Journal of virology* 86: 884-897

Fujisaki S *et al* (2012) A single E105K mutation far from the active site of influenza B virus neuraminidase contributes to reduced susceptibility to multiple neuraminidase-inhibitor drugs. *Biochem Biophys Res Commun* 429: 51-56

Furuta Y *et al* (2002) In vitro and in vivo activities of anti-influenza virus compound T-705. *Antimicrobial agents and chemotherapy* 46: 977-981

Ge XY *et al* (2013) Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor. *Nature* 503: 535-538

Gerhard W *et al* (1981) Antigenic structure of influenza virus haemagglutinin defined by hybridoma antibodies. *Nature* 290: 713-717

Gilead Sciences Inc. (2005) "Gilead and Roche End Tamiflu® Dispute; Expanded Collaboration Includes Gilead Role in Oversight of Manufacturing and Commercialization," http://investors.gilead.com/phoenix.zhtml?c=69964&p=irol-newsArticle&ID=783456

Prasad GC (2005) "Govt to buy bird flu drugs from Roche, Hetero," The Economic Times

GlaxoSmithKline (2007) "Agreement to increase availability of Zanamivir supply in Asia and Lease Developed Countries," http://www.gsk-china.com/asp/News/client/newconten/515200791555.htm

Gottlieb T, Ben-Yedidia T (2014) Epitope-based approaches to a universal influenza vaccine. *Journal of autoimmunity* 54: 15-20

Government Pharmaceutical Organization, "Our Products," http://www.intergpomed.com/Default.aspx?tabid=61. Accessed November 5, 2015.

Govorkova EA *et al* (2001) Comparison of efficacies of RWJ-270201, zanamivir, and oseltamivir against H5N1, H9N2, and other avian influenza viruses. *Antimicrobial agents and chemotherapy* 45: 2723-2732

Graham RL, Baric RS (2010) Recombination, reservoirs, and the modular spike: mechanisms of coronavirus cross-species transmission. *Journal of virology* 84: 3134-3146

Graham RL *et al* (2012) A live, impaired-fidelity coronavirus vaccine protects in an aged, immunocompromised mouse model of lethal disease. *Nature medicine* 18: 1820-1826

Graham RL *et al* (2013) A decade after SARS: strategies for controlling emerging coronaviruses. *Nature reviews Microbiology* 11: 836-848

Grandea AG, 3rd *et al* (2010) Human antibodies reveal a protective epitope that is highly conserved among human and nonhuman influenza A viruses. *Proceedings of the National Academy of Sciences of the United States of America* 107: 12658-12663

Gretebeck LM, Subbarao K (2015) Animal models for SARS and MERS coronaviruses. *Current opinion in virology* 13: 123-129.

Gruber M. (2012) Regulatory Pathways Supporting Development and Approval of Vaccines Formulated with Novel Adjuvant: Regulatory Considerations and Challenges. http://www.fda.gov/downloads/EmergencyPreparedness/MedicalCountermeasures/UCM292045.pdf. Last Update 2012. Accessed 14 September 2015.

Gubareva LV *et al* (1998) Evidence for zanamivir resistance in an immunocompromised child infected with influenza B virus. *J Infect Dis* 178: 1257-1262

Gubareva LV *et al* (2001) Selection of influenza virus mutants in experimentally infected volunteers treated with oseltamivir. *J Infect Dis* 183: 523-531

Guillermo LF et al (2015) "Influenza Vaccine Project at Birmex," poster presented at the Eighth Meeting with International Partners on Prospects for Influenza Vaccine Technology Transfer to Developing Country Vaccine Manufacturers, Sao Paulo, Brazil

Hai R et al (2013) Influenza A(H7N9) virus gains neuraminidase inhibitor resistance without loss of in vivo virulence or transmissibility. Nat Commun 4

Halabi S (2015) Obstacles to pH1N1 Vaccine Availability: the Complex Contracting Relationship between Vaccine Manufacturers, WHO, Donor and Beneficiary Governments. *The Public Health Response to 2009 H1N1: A Systems Perspective*

Hamamoto I *et al* (2013) High yield production of influenza virus in Madin Darby canine kidney (MDCK) cells with stable knockdown of IRF7. *PloS one* 8: e59892

Hamouda AK *et al* (2014) Photoaffinity labeling of nicotinic receptors: diversity of drug binding sites! *Journal of molecular neuroscience : MN* 53**:** 480-486

Han P-F *et al* (2015) H5N1 influenza A virus with K193E and G225E double mutations in haemagglutinin is attenuated and immunogenic in mice. *Journal of General Virology* 96: 2522-2530

Hays K (2015) "Gilead Sues Lupin Over Plans To Produce Generic Tamiflu," Law 360

Hauge SH et al (2009) Oseltamivir-resistant influenza viruses A (H1N1), Norway, 2007-08. Emerg Infect Dis 15: 155-162

Hendriks J et al (2010) China's emerging vaccine industry. Human vaccines 6: 602-607

Herfst S *et al* (2010) Introduction of virulence markers in PB2 of pandemic swine-origin influenza virus does not result in enhanced virulence or transmission. 3752-3758

Herfst S *et al* (2012) Airborne transmission of influenza A/H5N1 virus between ferrets. *Science* 336: 1534-1541

Hernández É (2015) "Producirá México vacuna contra influenza," [Mexico will produce an influenza vaccine], *Reforma*,

Hien NT (2008) Avian influenza in Vietnam: situation and lessons learned. *National Institute of Hygiene and Epidemiology, Hanoi, Vietnam*

Hilgenfeld R (2014) From SARS to MERS: crystallographic studies on coronaviral proteases enable antiviral drug design. *The FEBS journal* 281: 4085-4096

Hinman AR (2014) "Partnership for Influenza Vaccine Introduction (PIVI)," Dubai, United Arab Emirates, http://www.who.int/phi/DAY1_08_Panel2_Hinman_Panel2_PIVI_PM_Dubai2014.pdf

Hirst GK (1942) The Quantitative Determination of Influenza Virus and Antibodies by Means of Red Cell Agglutination. *J Exp Med* 75: 49-64

Hissen, "产品中心: 流感病毒裂解疫苗(2014/2015)使用说明" ["Products: Influenza Virus Vaccine (2014/2015) Description"], http://www.hissen.com/products/View.aspx?id=185

Homeland Security Council. (2005) National Strategy for Pandemic Influenza. Washington, D.C.

Hong M *et al* (2013) Antibody Recognition of the Pandemic H1N1 Influenza Virus Hemagglutinin Receptor Binding Site. Ibid. 87: 12471-12480

Hongthong P (2006) "Scientists produce generic Tamiflu," The Nation

Huang SSH *et al* (2011) Comparative Analyses of Pandemic H1N1 and Seasonal H1N1, H3N2, and Influenza B Infections Depict Distinct Clinical Pictures in Ferrets. *PLoS ONE* 6: e27512

Hurt AC *et al* (2009) Zanamivir-Resistant Influenza Viruses with a Novel Neuraminidase Mutation. *J Virol* 83: 10366-10373

Huynh J *et al* (2012) Evidence supporting a zoonotic origin of human coronavirus strain NL63. *Journal of virology* 86: 12816-12825

Imai M *et al* (2012) Experimental adaptation of an influenza H5 HA confers respiratory droplet transmission to a reassortant H5 HA/H1N1 virus in ferrets. *Nature* 486: 420-428

Immunizations SWGoIVa. Influenza A (H5N1) Vaccine Stockpile and Inter-Pandemic Vaccine Use Background Document. SAGE Working Group on Influenza Vaccines and Immunizations

Influenza A/H5N1 Vaccine Clinical Trial (IVACFLU-A/H5N1) - Phase 1. *ClinicalTrials.gov* https://clinicaltrials.gov/ct2/show/record/NCT02171819. Accessed October 29, 2015.

Institutul Cantacuzino nu face vaccin antigripal nici in sezonul 2015 - 2016, desi are autorizatii. [Cantacuzino Institute will not make flu vaccine in the 2015-2016 season, despite having licenses], *Ziare*, May 21, 2015, http://www.ziare.com/social/spital/institutul-cantacuzino-nu-face-vaccin-antigripal-nici-in-sezonul-2015-2016-desi-are-autorizatii-1364363. Accessed October 1, 2015.

International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), "IFPMA Influenza task force – IVS Membership," http://www.ifpma.org/resources/influenza-vaccines/ifpma-influenza-task-force/ivs-membership.html. Accessed July 7, 2015.

Jang YH, Seong BL (2012) Principles underlying rational design of live attenuated influenza vaccines. *Clinical and experimental vaccine research* 1: 35-49

Jernigan DB, Cox NJ (2015) H7N9: Preparing for the Unexpected in Influenza. *Annual Review of Medicine* 66: 361-371

Jia F et al (2013) Facile Synthesis of the Neuraminidase Inhibitor Peramivir. Synthetic Communications 43: 2641-2647

Jin H *et al* (2004) Imparting Temperature Sensitivity and Attenuation in Ferrets to A/Puerto Rico/8/34 Influenza Virus by Transferring the Genetic Signature for Temperature Sensitivity from Cold-Adapted A/Ann Arbor/6/60. *J Virol* 78: 995-998

Job ER *et al* (2010) Pandemic H1N1 influenza A viruses are resistant to the antiviral activities of innate immune proteins of the collectin and pentraxin superfamilies. *Journal of immunology (Baltimore, Md: 1950)* 185: 4284-4291

Kaji M et al (2003) Differences in clinical features between influenza A H1N1, A H3N2, and B in adult patients. Respirology (Carlton, Vic) 8: 231-233

Kaminski MM *et al* (2013) Pandemic 2009 H1N1 influenza A virus carrying a Q136K mutation in the neuraminidase gene is resistant to zanamivir but exhibits reduced fitness in the guinea pig transmission model. *Journal of virology* 87: 1912-1915

Kash JC *et al* (2014) Treatment with the reactive oxygen species scavenger EUK-207 reduces lung damage and increases survival during 1918 influenza virus infection in mice. *Free radical biology & medicine* 67: 235-247

Kash JC, Taubenberger JK (2015) The role of viral, host, and secondary bacterial factors in influenza pathogenesis. *The American journal of pathology* 185: 1528-1536

Kashyap AK *et al* (2010) Protection from the 2009 H1N1 pandemic influenza by an antibody from combinatorial survivor-based libraries. *PLoS pathogens* 6: e1000990

Khurana S *et al* (2010) Vaccines with MF59 adjuvant expand the antibody repertoire to target protective sites of pandemic avian H5N1 influenza virus. *Sci Transl Med* 2: 15ra15

Kieny MP (2011) "Overview of Global and Regional Influenza Vaccine Production Capacity," presentation given at the WHO GAP-II Vaccine Production Capacity conference, Geneva, Switzerland

Kilbourne ED (2006) Influenza pandemics of the 20th century. Emerging infectious diseases 12: 9-14

Kim CU *et al* (1997) Influenza neuraminidase inhibitors possessing a novel hydrophobic interaction in the enzyme active site: design, synthesis, and structural analysis of carbocyclic sialic acid analogues with potent anti-influenza activity. *J Am Chem Soc* 119: 681-690

Kim JH, Jacob J (2009) DNA vaccines against influenza viruses. *Current topics in microbiology and immunology* 333: 197-210

Kim JI *et al* (2013) DBA/2 mouse as an animal model for anti-influenza drug efficacy evaluation. *Journal of microbiology (Seoul, Korea)* 51: 866-871

Kiso M *et al* (2004) Resistant influenza A viruses in children treated with oseltamivir: descriptive study. *Lancet* 364: 759-765

Krause JC *et al* (2011a) A broadly neutralizing human monoclonal antibody that recognizes a conserved, novel epitope on the globular head of the influenza H1N1 virus hemagglutinin. *Journal of virology* 85: 10905-10908

Kumar S *et al* (2012) US public support for vaccine donation to poorer countries in the 2009 H1N1 pandemic. *PloS one* 7: e33025

LaForce FM. (2013) "Developing a Trivalent Live Attenuated Influenza Vaccine," presentation given at the Workshop on Business Modeling for Sustainable Influenza Vaccine Manufacturing

Langlois RA *et al* (2013) MicroRNA-based strategy to mitigate the risk of gain-of-function influenza studies. *Nat Biotechnol* 31: 844-847

Le QM *et al* (2009) Selection of H5N1 influenza virus PB2 during replication in humans. *Journal of virology* 83: 5278-5281

Legrand J et al (2006) Real-time monitoring of the influenza vaccine field effectiveness. Ibid. 24: 6605-6611

Leneva IA *et al* (2000) The neuraminidase inhibitor GS4104 (oseltamivir phosphate) is efficacious against A/Hong Kong/156/97 (H5N1) and A/Hong Kong/1074/99 (H9N2) influenza viruses. *Antiviral research* 48: 101-115

L'Huillier AG *et al* (2015) E119D Neuraminidase Mutation Conferring Pan-Resistance to Neuraminidase Inhibitors in an A(H1N1)pdm09 Isolate From a Stem-Cell Transplant Recipient. *J Infect Dis*

Li W et al (1998) Identification of GS 4104 as an orally bioavailable prodrug of the influenza virus neuraminidase inhibitor GS 4071. Antimicrob Agents Chemother 42: 647-653

Luk GS *et al* (2015) Transmission of H7N9 Influenza Viruses with a Polymorphism at PB2 Residue 627 in Chickens and Ferrets, Ibid. 89: 9939-9951

Mahony JB *et al* (2004) Performance and Cost evaluation of one commercial and six in-house conventional and real-time reverse transcription-pcr assays for detection of severe acute respiratory syndrome coronavirus. *J Clin Microbiol* 42: 1471-1476

Manicassamy B *et al* (2010) Protection of mice against lethal challenge with 2009 H1N1 influenza A virus by 1918-like and classical swine H1N1 based vaccines. *PLoS Pathog* 6: e1000745

Margine I, Krammer F (2014) Animal models for influenza viruses: implications for universal vaccine development. Pathogens (Basel, Switzerland) 3: 845-874.

Martínez-Sobrido L *et al* (2010) Hemagglutinin-Pseudotyped Green Fluorescent Protein-Expressing Influenza Viruses for the Detection of Influenza Virus Neutralizing Antibodies. *J Virol* 84: 2157-2163

Matsuzaki Y *et al* (2014) Epitope mapping of the hemagglutinin molecule of A/(H1N1)pdm09 influenza virus by using monoclonal antibody escape mutants. *Journal of virology* 88: 12364-12373

McKinstry KK *et al* (2009) IL-10 deficiency unleashes an influenza-specific Th17 response and enhances survival against high-dose challenge. *Journal of immunology* 182: 7353-7363

Medina RA et al (2010) Pandemic 2009 H1N1 vaccine protects against 1918 Spanish influenza virus. Nat Commun 1: 28

Meštrović T (2011) Tamiflu- Oseltamivir Production. News Medical

Middleton D *et al* (2009) Evaluation of vaccines for H5N1 influenza virus in ferrets reveals the potential for protective single-shot immunization. *Journal of virology* 83: 7770-7778

Minhai Biotechnology Co. Ltd., "Patents," http://en.biominhai.com/yfdt/&FrontComContent_list01-1369617220497ContId=56b25fd5-73e3-411e-8894-ab9462fc265e&comContentId=56b25fd5-73e3-411e-8894-ab9462fc265e.html

Montomoli E *et al* (2011) Current adjuvants and new perspectives in vaccine formulation. *Expert Rev Vaccines* 10: 1053-1061

Morens DM, Fauci AS (2007) The 1918 influenza pandemic: insights for the 21st century. *The Journal of infectious diseases* 195: 1018-1028

Moseley CE *et al* (2010) Peroxisome proliferator-activated receptor and AMP-activated protein kinase agonists protect against lethal influenza virus challenge in mice. *Influenza and other respiratory viruses* 4: 307-311

Myers JL *et al* (2013) Compensatory hemagglutinin mutations alter antigenic properties of influenza viruses. *Journal of virology* 87: 11168-11172

Navy Medical Research Center. Naval Medical Research Unit 3 (NAMRU-3) Cairo, Egypt. http://www.med.navy.mil/sites/nmrc/Pages/namru3.htm. Last Update Accessed November 28, 2015.

Neptunus, "Company Profile," http://www.interlong.com/En/About/

Nesterova D (2012) Influenza Vaccine History. Vaccination Research Group

Nieto-Torres JL *et al* (2014) Severe acute respiratory syndrome coronavirus envelope protein ion channel activity promotes virus fitness and pathogenesis. *PLoS pathogens* 10: e1004077

Nivitchanyong T *et al* (2011) Enhanced expression of secretable influenza virus neuraminidase in suspension mammalian cells by influenza virus nonstructural protein 1. *Journal of virological methods* 178: 44-51

Novartis Vaccines and Diagnostics 92015) FDA Advisory Committee Briefing Document: Fluad Seasonal Adjuvanted Trivalent Influenza Vaccine (aTIV). *Vaccines and Related Biological Products Adivsory Committee*

Novartis. FLUAD® (MF59®-Adjuvanted Influenza Vaccine) Fact Sheet. https://www.novartis.com/sites/www.novartis.com/files/Fluad_Fact_Sheet.pdf. Last Update Accessed September 15, 2015.

O'Donnell CD *et al* (2012) Antibody pressure by a human monoclonal antibody targeting the 2009 pandemic H1N1 virus hemagglutinin drives the emergence of a virus with increased virulence in mice. *MBio* 3

OIE, World Animal Health Organization Database (WAHID), "Detailed Country(ies) disease incidence," http://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/statusdetail

Oshitani H (2010) Influenza surveillance and control in the Western Pacific Region. Western Pacific surveillance and response journal: WPSAR 1: 3-4

Ozawa M *et al* (2011) Replication-incompetent influenza A viruses that stably express a foreign gene. *The Journal of general virology* 92: 2879-2888

Palmer E 2013) "Thailand government vaccine plant at center of probe," Fierce Pharma Manufacturing

Panyawai S (2013) "GPO chief's axing 'not political': Board's probe was thorough, chairman says," *Thailand Online News*

Partridge J, Kieny MP (2013) Global production capacity of seasonal influenza vaccine in 2011. *Vaccine* 31: 728-731

Parvin JD *et al* (1986a) Measurement of the mutation rates of animal viruses: influenza A virus and poliovirus type 1. *Journal of virology* 59: 377-383

PATH, "PATH's Work in Vaccine Development: Low-cost influenza vaccine production," http://sites.path.org/vaccinedevelopment/influenza/vaccine-production-in-the-developing-world/. Accessed August 3, 2015.

PATH (2015) "Signing of new Letter of Agreement between BCHT and PATH supports influenza vaccine development in China," http://sites.path.org/vaccinedevelopment/files/2015/02/BCHTbulletin-on-agreement-with-PATH_020215_for-web-no-watermark.pdf

Pearce MB *et al* (2012) Seasonal trivalent inactivated influenza vaccine protects against 1918 Spanish influenza virus infection in ferrets. *Journal of virology* 86: 7118-7125

Peiris JS *et al* (2003) Clinical progression and viral load in a community outbreak of coronavirus-associated SARS pneumonia: a prospective study. *Lancet* 361: 1767-1772

Pfefferle S *et al* (2009) Distant relatives of severe acute respiratory syndrome coronavirus and close relatives of human coronavirus 229E in bats, Ghana. *Emerging infectious diseases* 15: 1377-1384

Phommasack B *et al* (2012) Capacity building in response to pandemic influenza threats: Lao PDR case study. *The American journal of tropical medicine and hygiene* 87: 965-971

Pica N *et al* (2011) The DBA.2 mouse is susceptible to disease following infection with a broad, but limited, range of influenza A and B viruses. Ibid. 85: 12825-12829

Pleguezuelos O *et al* (2012) Synthetic Influenza vaccine (FLU-v) stimulates cell mediated immunity in a double-blind, randomised, placebo-controlled Phase I trial. Ibid. 30: 4655-4660

Sarnsamak P (2013) "Flu Vaccine Plant Saraburi: DSI Agrees to Look Into Irregularities," The Nation

Poon LL et al (2010) Rapid detection of reassortment of pandemic H1N1/2009 influenza virus. Clinical chemistry 56: 1340-1344

PR Newswire (2010) "Simcere Receives SFDA Approval to Manufacture and Sell Zanamivir in China," *Bloomberg*

Prabakaran P *et al* (2006) Structure of severe acute respiratory syndrome coronavirus receptor-binding domain complexed with neutralizing antibody. *The Journal of biological chemistry* 281: 15829-15836

Prasert P, Thamnukasetchai P (2013) "Paracetamol Scandal: Action Sought against top GPO official," *The Nation*

Protein Sciences. Flublok. http://www.proteinsciences.com/FVAC.htm. Last Update Accessed September 15, 2015.

Public Health Emergency, U.S. Department of Health & Human Services, "International Assistance and Response Policy Branch," http://www.phe.gov/about/OPP/dihs/Pages/policy.aspx Last Reviewed October 16, 2014

Pulit-Penaloza JA *et al* (2015) Pathogenesis and Transmission of Novel Highly Pathogenic Avian Influenza H5N2 and H5N8 Viruses in Ferrets and Mice. *Journal of virology* 89: 10286-10293

Qi L *et al* (2014) Contemporary Avian Influenza A Virus Subtype H1, H6, H7, H10, and H15 Hemagglutinin Genes Encode a Mammalian Virulence Factor Similar to the 1918 Pandemic Virus H1 Hemagglutinin. *mBio* 5: e02116-02114

Qu XX *et al* (2005) Identification of two critical amino acid residues of the severe acute respiratory syndrome coronavirus spike protein for its variation in zoonotic tropism transition via a double substitution strategy. *J Biol Chem* 280: 29588-29595

Ratia K et al (2008) A noncovalent class of papain-like protease/deubiquitinase inhibitors blocks SARS virus replication. Proceedings of the National Academy of Sciences of the United States of America 105: 16119-16124

Reddy D (2010) Responding to pandemic (H1N1) 2009 influenza: the role of oseltamivir. *Journal of antimicrobial chemotherapy* 65: ii35-ii40

Research Institute for Biological Safety Problems (RIBSP) (2015) "Technology transfer project for Influenza Vaccine-2011/14 phase," poster presented at the Eighth Meeting with International Partners on Prospects for Influenza Vaccine Technology Transfer to Developing Country Vaccine Manufacturers, Sao Paulo, Brazil

Ricardo J. Soares Magalhaes, Dirk U. Pfeiffer, Joachim Otte, "Evaluating the control of HPAIV H5N1 in Vietnam: virus transmission within infected flocks reported before and after vaccination," *BMC Vet Res.* 6 (2010): p.1 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2898779/pdf/1746-6148-6-31.pdf>.

Richardson SE *et al* (2004) The laboratory diagnosis of severe acute respiratory syndrome: emerging laboratory tests for an emerging pathogen. *The Clinical biochemist Reviews / Australian Association of Clinical Biochemists* 25: 133-141

Rimmelzwaan GF *et al* (2011) Use of GFP-expressing influenza viruses for the detection of influenza virus A/H5N1 neutralizing antibodies. *Vaccine* 29: 3424-3430

Rith S *et al* (2014) Identification of molecular markers associated with alteration of receptor-binding specificity in a novel genotype of highly pathogenic avian influenza A(H5N1) viruses detected in Cambodia in 2013. *Journal of virology* 88: 13897-13909

Roberts A *et al* (2007) A mouse-adapted SARS-coronavirus causes disease and mortality in BALB/c mice. *PLoS pathogens* 3: e5

Roche (2006) Factsheet Tamiflu http://www.roche.com/tamiflu_factsheet.pdf

Rockx B *et al* (2010) Escape from human monoclonal antibody neutralization affects in vitro and in vivo fitness of severe acute respiratory syndrome coronavirus. *The Journal of infectious diseases* 201: 946-955

Rudneva I et al (2012) Escape mutants of pandemic influenza A/H1N1 2009 virus: variations in antigenic specificity and receptor affinity of the hemagglutinin. Virus Res 166: 61-67

Rudolph W, Ben Yedidia T (2011) A universal influenza vaccine: where are we in the pursuit of this "Holy Grail"? *Human vaccines* 7: 10-11

Russell CA et al (2014) Improving pandemic influenza risk assessment. Elife 3: e03883

Schmidt PM *et al* (2011) A Generic System for the Expression and Purification of Soluble and Stable Influenza Neuraminidase. *PLoS ONE* 6: e16284

Schnell JR, Chou JJ (2008) Structure and mechanism of the M2 proton channel of influenza A virus. *Nature* 451: 591-595

Scholtissek C (1994) Source for influenza pandemics. European journal of epidemiology 10: 455-458

Schultz-Cherry S *et al* (2014) Influenza Gain-of-Function Experiments: Their Role in Vaccine Virus Recommendation and Pandemic Preparedness. *MBio* 5

(2009) Scientists develop ways producing anti-bird flu drug Zanamivir. People's Daily

(2015) Scientists hope to recycle 10m out-of-date Tamiflu tablets. Viêt Nam News

Sedova ES et al (2012) Recombinant influenza vaccines. Acta Naturae 4: 17-27

Severson WE *et al* (2007) Development and validation of a high-throughput screen for inhibitors of SARS CoV and its application in screening of a 100,000-compound library. *Journal of biomolecular screening* 12: 33-40

Shanghai Institute of Materia Medica, Chinese Academy of Sciences, "The New Drug Certificate for Anti-H1N1 Flu Medicine Zanamivir granted to SIMM," March 17, 2010,

Shaw A (2012) New technologies for new influenza vaccines. Vaccine 30: 4927-4933

Sheahan T *et al* (2008) Mechanisms of zoonotic severe acute respiratory syndrome coronavirus host range expansion in human airway epithelium. Ibid. 82: 2274-2285

Sherring, L (2015) "HHS funds 2 experimental flu treatments." CIDRAP

Shoji Y et al (2011) An influenza N1 neuraminidase-specific monoclonal antibody with broad neuraminidase inhibition activity against H5N1 HPAI viruses. *Human vaccines* 7 Suppl: 199-204

Shrestha SS *et al* (2011) Estimating the burden of 2009 pandemic influenza A (H1N1) in the United States (April 2009-April 2010). *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America* 52 Suppl 1: S75-82

Simcere, "Zanamivir," http://www.simcere.com/english/products/detail.asp?gongs_id=59&leibieid=APIs Last Updated 2009 Accessed January 16, 2016

Singh K (2009) "Govt curbs sale of flu drug Zanamivir," The Economic Times

Singh K (2009) "Hetero bags mega chunk of govt's anti-flu drug deal," The Economic Times

Skowronski DM *et al* (2012) Cross-reactive and vaccine-induced antibody to an emerging swine-origin variant of influenza A virus subtype H3N2 (H3N2v). *J Infect Dis* 206: 1852-1861

Sleeman K *et al* (2013) R292K substitution and drug susceptibility of influenza A(H7N9) viruses. *Emerging infectious diseases* 19: 1521-1524

Smith GE *et al* (2013) Development of influenza H7N9 virus like particle (VLP) vaccine: homologous A/Anhui/1/2013 (H7N9) protection and heterologous A/chicken/Jalisco/CPA1/2012 (H7N3) cross-protection in vaccinated mice challenged with H7N9 virus. *Vaccine* 31: 4305-4313

Smith GJ *et al* (2009) Dating the emergence of pandemic influenza viruses. *Proc Natl Acad Sci U S A* 106: 11709-11712

Surichan S *et al* (2011) Development of influenza vaccine production capacity by the Government Pharmaceutical Organization of Thailand: addressing the threat of an influenza pandemic. *Vaccine* 29: A29-A33

Sorrell EM *et al* (2009) Minimal molecular constraints for respiratory droplet transmission of an avianhuman H9N2 influenza A virus. *Proc Natl Acad Sci U S A* 106: 7565-7570

Srivastava B *et al* (2009) Host genetic background strongly influences the response to influenza a virus infections. *PloS one* 4: e4857

Staschke KA *et al* (1995) Molecular basis for the resistance of influenza viruses to 4-guanidino-Neu5Ac2en. *Virology* 214: 642-646

Steel J et al (2009) Transmission of Influenza Virus in a Mammalian Host Is Increased by PB2 Amino Acids 627K or 627E/701N. PLoS pathogens 5: e1000252

Steel J, Lowen AC (2014) Influenza A virus reassortment. *Current topics in microbiology and immunology* 385: 377-401

Stephen M. Ostroff Acting Commissioner of Food and Drugs. Letter of Authorization RealStar® MERS-CoV RT-PCR Kit U.S. .

http://www.fda.gov/downloads/MedicalDevices/Safety/EmergencySituations/UCM455348.pdf. Last Update July 17, 2015. Accessed December 2015.

Stöhr K (2013a) Influenza vaccine production. In *Textbook of Influenza*, 2nd Edition, 2nd Edition edn, pp 352-370.

Stoloff GA, Caparros-Wanderley W (2007) Synthetic multi-epitope peptides identified in silico induce protective immunity against multiple influenza serotypes. *European journal of immunology* 37: 2441-2449

Strengert M et al (2014) Mucosal reactive oxygen species are required for antiviral response: role of Duox in influenza a virus infection. Antioxidants & redox signaling 20: 2695-2709

Suguitan AL *et al* (2006) Live, Attenuated Influenza A H5N1 Candidate Vaccines Provide Broad Cross-Protection in Mice and Ferrets. *PLoS Med* 3: e360

Suhardono M *et al* (2011) Establishment of pandemic influenza vaccine production capacity at Bio Farma, Indonesia. *Vaccine* 29: A22-A25

Sui J et al (2008) Broadening of neutralization activity to directly block a dominant antibody-driven SARS-coronavirus evolution pathway. PLoS pathogens 4: e1000197

Sui J et al (2014) Effects of human anti-spike protein receptor binding domain antibodies on severe acute respiratory syndrome coronavirus neutralization escape and fitness. Journal of virology 88: 13769-13780

Sun K *et al* (2011) Seasonal FluMist vaccination induces cross-reactive T cell immunity against H1N1 (2009) influenza and secondary bacterial infections. *Journal of immunology (Baltimore, Md : 1950)* 186: 987-993

Sun X *et al* (2013) N-linked glycosylation of the hemagglutinin protein influences virulence and antigenicity of the 1918 pandemic and seasonal H1N1 influenza A viruses. *Journal of virology* 87: 8756-8766

Surichan S *et al* (2011) Development of influenza vaccine production capacity by the Government Pharmaceutical Organization of Thailand: addressing the threat of an influenza pandemic. *Vaccine* 29: A29-A33

Sutton TC, Subbarao K (2015) Development of animal models against emerging coronaviruses: From SARS to MERS coronavirus. *Virology* 479: 247-258

Tasly Holding Group Co. Ltd., "Products," http://www.tasly.com/en_web/Product_list2.aspx

Thanhniennews (2015) Affordable bird flu vaccine made in Vietnam passes first human trial *Talk Vietnam*

Tharakaraman K *et al* (2015) A broadly neutralizing human monoclonal antibody is effective against H7N9. *Proceedings of the National Academy of Sciences of the United States of America* 112: 10890-10895

The Task Force for Global Health, "Partnership for Influenza Vaccine Introduction," http://www.taskforce.org/our-work/projects/partnership-influenza-vaccine-introduction

The World Bank, "Country and Lending Groups," http://data.worldbank.org/about/country-and-lending-groups. Accessed July 7, 2015.

Thor SW *et al* (2015) Detection and characterization of Clade 1 Reassortant H5N1 viruses Isolated from human cases in Vietnam during 2013. *PloS one* 10: e0133867

Tiaji Salaam-Blyther, "The 2009 Influenza Pandemic: U.S. Responses to Global Human Cases," Congressional Research Service, June 23, 2009, p. 11,

< https://www.acs.org/content/dam/acsorg/policy/acsonthehill/globalchallenges discussions/swine flu/crs-r40588-us-responses.pdf>.

Tian J. et al., "Organocatalytic and scalable synthesis of the anti-influenza drugs zanamivir, laninamivir, and CS-8958," *Angewandte Chemie* 126 (2014): p. 14105-14108.

Tiensin T et al (2005) Highly pathogenic avian influenza H5N1, Thailand, 2004. Emerging infectious diseases 11: 1664-1672

Tippoo P, Ntombela S. "The BIOVAC Institute: Establishing Influenza Vaccine Manufacturing Capacity in Africa," poster presented at the Eighth Meeting with International Partners on Prospects for Influenza Vaccine Technology Transfer to Developing Country Vaccine Manufacturers, Sao Paulo, Brazil, March 17-18, 2015, http://www.who.int/phi/8thPartnersMtg2015_BIOVAC_poster.pdf. Accessed November 5, 2015.

Torlak, "History," http://www.torlakinstitut.com/en/page/23/History. Accessed October 29, 2015.

Torlak, "Research & Development,"

http://www.torlakinstitut.com/en/page/14/Research+&+Development. Accessed October 29, 2015.

Toyama Chemical Company, Ltd. Pipeline. https://www.toyama-chemical.co.jp/en/rd/pipeline/index.html. Last Update Accessed November 8, 2015.

Trock SC *et al* (2012) Development of an influenza virologic risk assessment tool. *Avian diseases* 56: 1058-1061

Tseng, C. T., et al. (2012). "Immunization with SARS-CoV coronavirus vaccines leads to pulmonary immunopathology on challenge with the SARS-CoV virus." PLoS One **7**(4): e35421.

Department of Health & Human Services, "International Influenza Vaccine Capacity Building Portfolio," https://www.medicalcountermeasures.gov/projectmaps/Who.aspx. Accessed October 1, 2015.

Department of Health & Human Services (2012) North American Plan For Animal and Pandemic Influenza (NAPAPI)

Department of Health and Human Services (2012) "An HHS retrospective on the 2009 H1N1influenza pandemic to advance all hazards preparedness"

Food and Drug Administration, "FDA Approved Drug Products: Drug Details, RELENZA," http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm?fuseaction=Search.DrugDetails

Food and Drug Administration (2014) FDA approves Rapivab to treat flu infection FDA News Release,

U.S. Patent 5,763,483 A, "Carbocyclic Compounds," Filed December 27, 1996, Published June 9, 1998,

Ulmer JB et al (2006) Vaccine manufacturing: challenges and solutions. Nature biotechnology 24: 1377-1383

United States of America (2013) Identifying and addressing barriers to the emergency sharing of international public health and medical assistance Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Meeting of Experts, Geneva, Switzerland

Engelhardt O, et al (2013) Update of WHO biosafety risk assessment and guidelines for the production and quality control of human influenza vaccines against avian influenza A(H7N9) virus. *World Health Organization*

Vabiotech, "Products - Vaccine,"

http://www.en.vabiotech.com.vn/index.php?option=com_content&view=article&id=88&Itemid=109&lan g=en. Accessed October 29, 2015.

Vaccince News Report (2015) Hualan is first influenza vaccine manufacturer in China to get WHO approval. *Vaccine News Daily*

Vaccine response to the avian influenza A(H7N9) outbreak- step 1: development and distribution of candidate vaccine viruses.

http://www.who.int/influenza/vaccines/virus/CandidateVaccineVirusesH7N9_02May13.pdf. Last Update Accessed September 14, 2015.

van der Vries E *et al* (2013) Prolonged influenza virus shedding and emergence of antiviral resistance in immunocompromised patients and ferrets. *PLoS pathogens* 9: e1003343

Van Kerkhove MD *et al* (2013) The consortium for the standardization of influenza seroepidemiology (CONSISE): a global partnership to standardize influenza seroepidemiology and develop influenza investigation protocols to inform public health policy. *Influenza Other Respir Viruses* 7: 231-234

(2006) Vietnam likely to produce Tamiflu from anise next year. Xinhua through People, March 21, 2006,

Vietnam Ministry of Foreign Affairs (2005) Viet Nam signs agreement on Tamiflu production with F.Hofmann-Laroche

Vijaykrishna D *et al* (2007) Evolutionary insights into the ecology of coronaviruses. *Journal of virology* 81: 4012-4020

Vincent A *et al* (2014) Review of influenza A virus in swine worldwide: a call for increased surveillance and research. *Zoonoses and public health* 61: 4-17

Visterra Pipeline. http://www.visterrainc.com/pipeline/pipeline.html. Last Update Accessed November 8, 2015.

von Itzstein M *et al* (1993) Rational design of potent sialidase-based inhibitors of influenza virus replication. *Nature* 363: 418-423

Walvax Biotechnology Co. Ltd., "产品宣传册," ["Product Brochure"] http://www.walvax.com/Model/6.aspx

Wan X-F *et al* (2008) Evolution of highly pathogenic H5N1 avian influenza viruses in Vietnam between 2001 and 2007. *PloS one* 3: e3462

Wang X (2005) Shanghai firm wins license for generic version of Tamiflu China Daily

Wappes J (2015) USDA issues plan for likely fall return of avian flu. CIDRAP

Watanabe T *et al* (2014) Circulating avian influenza viruses closely related to the 1918 virus have pandemic potential. *Cell Host Microbe* 15: 692-705

Weaver J et al (2012) Initial assessment of strategic plans for improving the performance of veterinary services in developing countries: a review of OIE PVS gap analysis reports. Revue scientifique et technique (International Office of Epizootics) 31: 631-645

Webster RG et al (1982) Molecular mechanisms of variation in influenza viruses. Nature 296: 115-121

Wei CJ *et al* (2010) Cross-neutralization of 1918 and 2009 influenza viruses: role of glycans in viral evolution and vaccine design. *Sci Transl Med* 2: 24ra21

Weingartl H *et al* (2004) Immunization with modified vaccinia virus Ankara-based recombinant vaccine against severe acute respiratory syndrome is associated with enhanced hepatitis in ferrets. *Journal of virology* 78: 12672-12676

Wensing AM *et al* (2014) 2014 Update of the drug resistance mutations in HIV-1. *Topics in antiviral medicine* 22: 642-650

Wibulpolprasert S (2010) "GAP and Flu Vaccine Production in Thailand – from Public Health Policy Development to Vaccine Production," presentation given at the Second WHO Consultation on the Global Action Plan for Influenza Vaccine (GAP-II), Geneva, Switzerland

Wizemann T et al (2016) Rapid Medical Countermeasure Response to Infectious Diseases:: Enabling Sustainable Capabilities Through Ongoing Public-and Private-Sector Partnerships: Workshop Summary: National Academies Press.

Wong FY et al (2015) Reassortant highly pathogenic influenza A (H5N6) virus in Laos. Emerging infectious diseases 21: 511

WHO Expert Committee on Biological Standardization. (2010) Recommendations to assure the quality, safety and efficacy of influenza vaccines (human, live attenuated) for intranasal administration. WHO Technical Report Series No 977

World Health Organization (2009) Availability of a new candidate reassortant vaccine virus for pandemic (H1N1) 2009 virus vaccine development

http://www.who.int/csr/disease/swineflu/guidance/vaccines/candidates/cp122_2009_0608_availability_of _new_cr_vaccine_virus_nibrg-121-final.pdf?ua=1. Last Update Accessed September 15, 2015.

World Health Organization "Disease Outbreak News- Lao People's Democratic Republic," http://www.who.int/csr/don/archive/country/lao/en/ Last Updated January 29, 2016 Accessed November 10, 2015

World Health Organization. Global Influenza Surveillance and Response System (GISRS). http://www.who.int/influenza/gisrs_laboratory/en/. Last Update Accessed December 7, 2015.

World Health Organization (2007) Process of Influenza Vaccine Virus Selection and Development

World Health Organization (2015) Recommended composition of influenza virus vaccines for use in the 2015-2016 northern hemisphere influenza season.

World Health Organization (2011) Technical Studies Under Resolution WHA63.1, Final Document, A/PIP/OEWG/3/2, April 4, 2011, p. 22-26,

World Health Organization "Disease Outbreak News (DONs)" http://www.who.int/csr/don/en/ Last Updated April 9, 2016

World Health Organization "Generic Drugs," http://www.who.int/trade/glossary/story034/en/ Access October 31, 2015

World Health Organization "Global Health Observatory (GHO) data: Global influenza virological surveillance" http://www.who.int/gho/epidemic_diseases/influenza/virological_surveillance/en/ Accessed July 7, 2015.

World Health Organization (2012) H5N1 avian influenza: Timeline of major events

World Health Organization "Influenza: Influenza vaccine viruses and reagents" http://www.who.int/influenza/vaccines/virus/en/. Accessed July 7, 2015.

World Health Organization "Influenza: Virus Sharing" http://www.who.int/influenza/pip/virus_sharing/en/. Accessed July 7, 2015.

World Health Organization "Monthly Risk Assessment Summary, Influenza at the Human-Animal Interface," http://www.who.int/influenza/human_animal_interface/HAI_Risk_Assessment/en/ Last Updated February 25, 2016

World Health Organization (2013) "Report of the Sixth Meeting with International Partners on Prospects for Influenza Vaccine Technology Transfer to Developing Country Vaccine Manufacturers" World Health Organization Press

World Health Organization (2011) Pandemic influenza preparedness Framework for the sharing of influenza viruses and access to vaccines and other benefits *World Health Organization Press*

World Health Organization (2015) Public Health Innovation and Intellectual Property (PHI), Department of Essential Medicines and Health Products (EMP), "Clinical Research Organization (CRO) to support an Inactivated Influenza Vaccine Clinical Trial in Serbia," Request for Proposal Bid Reference 2015/HIS/PHI/001

World Health Organization (2010) Final Pandemic (H1N1) 2009 Vaccine Deployment Update

World Health Organization (2014) Pandemic Influenza Preparedness (PIP) Framework 2013 Partnership Contribution Questionnaire Final Results

World Health Organization (2012) Report of the WHO Pandemic Influenza A(H1N1) Vaccine Deployment Initiative

World Health Organization (2013) Severe Acute Respiratory Syndrome (SARS)

World Health Organization (2012) WHO Guidelines on the Use of Vaccines and Antivirals during Influenza Pandemics

World Health Organization (2005) WHO guidelines on nonclinical evaluation of vaccines. WHO Technical Report Series, No 927

World Health Organization. Influenza vaccine viruses and reagents. http://www.who.int/influenza/vaccines/virus/en/. Last Update September 2015. Accessed 30 September 2015.

Worobey M et al (2014) Genesis and pathogenesis of the 1918 pandemic H1N1 influenza A virus. Proc Natl Acad Sci U S A 111: 8107-8112

Wrammert J et al (2011) Broadly cross-reactive antibodies dominate the human B cell response against 2009 pandemic H1N1 influenza virus infection. J Exp Med 208: 181-193

Wu CY *et al* (2004) Small molecules targeting severe acute respiratory syndrome human coronavirus. Ibid. 101: 10012-10017

Wu J. (2015) "Changchun BCHT Biotechnology Co., China," poster presented at the Eighth Meeting with International Partners on Prospects for Influenza Vaccine Technology Transfer to Developing Country Vaccine Manufacturers, Sao Paulo, Brazil

Wurzer WJ *et al* (2004) NF-kappaB-dependent induction of tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) and Fas/FasL is crucial for efficient influenza virus propagation. *The Journal of biological chemistry* 279: 30931-30937

Xie H *et al* (2015) H3N2 Mismatch of 2014-15 Northern Hemisphere Influenza Vaccines and Head-to-head Comparison between Human and Ferret Antisera derived Antigenic Maps. *Sci Rep* 5: 15279

Yamashita M *et al* (2009) CS-8958, a prodrug of the new neuraminidase inhibitor R-125489, shows longacting anti-influenza virus activity. *Antimicrobial agents and chemotherapy* 53: 186-192

Yang Y *et al* (2015) Two Mutations Were Critical for Bat-to-Human Transmission of Middle East Respiratory Syndrome Coronavirus. Ibid. 89: 9119-9123

Ye D *et al* (2012) Synthesis of C-4-modified zanamivir analogs as neuraminidase inhibitors and their anti-AIV activities. *European journal of medicinal chemistry* 54: 764-770

Yeh BT (2007) Influenza antiviral drugs and patent law issues. CRS Report for Congress,

Yu X *et al* (2008) Neutralizing antibodies derived from the B cells of 1918 influenza pandemic survivors. *Nature* 455: 532-536

Zhang N *et al* (2014) Current advancements and potential strategies in the development of MERS-CoV vaccines. *Expert Rev Vaccines* 13: 761-774

Zhao D *et al* (2012) Phylogenetic and Pathogenic Analyses of Avian Influenza A H5N1 Viruses Isolated from Poultry in Vietnam. *PloS one* 7: e50959

Zhou EY. (2007) Vaccine development in China. BioPharm International 20, no. 4

Zhu X *et al* (2013b) A unique and conserved neutralization epitope in H5N1 influenza viruses identified by an antibody against the A/Goose/Guangdong/1/96 hemagglutinin. *J Virol* 87: 12619-12635

Zhu Y *et al* (2013a) Human co-infection with novel avian influenza A H7N9 and influenza A H3N2 viruses in Jiangsu province, China. *Lancet* 381: 2134

Chapter 16

Михаил Алексеев [Mikhail Alekseyev], "Пернатая зараза [Fowl Infection]," Lenta.ru, February 19, 1 USC §204. 7 CFR §331. 7 CFR §331.3 7 CFR §331.11. 8 CFR §817 9 CFR §121. 9 CFR §121.3 9 CFR §121.11. 9 CFR §122. 15 CFR §734.3-8. 15 CFR §744.4-6. 18 U.S.C. §175. 22 CFR §121.1. 29 CFR §654 29 CFR §1910.1200 29 CFR §1910.1450 42 CFR §71.54. 42 CFR §73.3 42 CFR §73.10. 42 CFR §73.11. 42 CFR §73.12. 42 CFR §73.14.

42 CFR §73.15.

- 42 CFR §73.16.
- 42 CFR §73.17.
- 42 CFR §74.11.
- 49 CFR §172.134.
- 49 CFR §173.134.
- 49 CFR §173.196.
- 49 CFR §173.199.
- 50 USC §1801-1812.

Blast from the Past- '80s Lab Raids. No Compromise.

Lab rat switcher jumps bail, flees to Iran. Iran Times.

- (1972) Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction.
- (1988) Lab Records, Dogs Stolen From Baby Fae Surgeon. Los Angeles Times.
- (1989) Diseased mice freed in arson fires, break-in.
- (1992) Animal Rights Raiders Destroy Years of Work. The New York Times.
- (1998) 2 charged with making biological weapons. CNN.
- (1998) Stalin's Plan to Assassinate Tito. Cold War International History Project Bulletin, Vol. 10.
- (1999) Hate Waste: Task force formed after second container of medical waste found. *The Nevada Daily Mail*.
- (2004) FBI Checking Crop-Dusting Planes and Pilots, Still Worried About Possible Terror Use. *Police One*.
- (2005) Veteran animal rights activist jailed after threat in court. The Guardian.
- (2006) Al-Aqsa Martyrs Brigade in Palestine Claims to Have Developed Chemical and Biological Weapons and Threatens Their Use in Israel. *SITE Intelligence Group Enterprise*
- (2008) Al Qaeda: Weapons expert among dead 'heroes'. CNN.
- (2008) 'Eastern Turkistan' terrorists identified. China Daily,
- (2008) Four Arrested in 1999 New Year's Eve Agriculture Hall arson. MSU Special Report.
- (2008) Thousands of mink freed in B.C. in apparent act of `eco-terrorism' Vancouver Province.

- (2009) Dr. Aafia to boycott trial. The Nation.
- (2009) Trojan.Peskyspy-Listening in on your Conversations. Symantec Official Blog.
- (2009) Winnipeg researcher charged with smuggling Ebola material into U.S. CBC News.
- (2010) Federal jury convicts Pakistani woman of attempted murder of US personnel. Jurist.
- (2010) Minkfarm drabbad av utsläppta djur. Småland.
- (2010) Social insecurity: What millions of online users don't know can't hurt them. *Consumer Reports Magazine*.
- (2010) Extremists Warn of Biological Strike in India. *Nuclear Threat Initiative Global Security Newswire*.
- (2011) Girls school, shops blown up in Swabi. Dawn.
- (2011) Mexico navy smashes Zetas cartel communications network. BBC News.
- (2011) Taliban confirm they have Swiss hostages. Agence France Presse.
- (2012) Al-Qaeda Magazine Urges Chemical, Biological Strikes Against Foes. *Nuclear Threat Initiative Global Security Newswire*.
- (2012) Nuovo blitz degli animalisti Liberati 1.400 visoni da pelliccia. Gazzetta di Mantova.
- (2012) University campus blown up in Charsadda. Dawn.
- (2012) 'When kids bury kids': Russia remembers 130 victims of Nord-Ost terror act 10 years on. *Russia Today*.
- (2012) Army destroys minefield in southwest Colombia. Colombia Reports.
- (2013) Consumer Reports: 58.2 Million Americans Had a Malware Infection on Their Home Pc Last Year. *Consumer Reports Magazine*.
- (2013) Philippine Army finds human feces, snake venom in wounded soldiers' wounds. *Mindanao Examiner*.
- (2014) 'I don't feel guilty': Single surviving Beslan terrorist unrepentant 10 years after tragedy. *Russia Today*.
- (2014) Islamic State formations comprise up to 70,000 gunmen- Chief of Russia's General Staff. TASS.
- (2014) Use of Ebola virus as bioterror weapon highly unlikely: Experts. Homeland Security News Wire.
- (2014) ال بغدادي ويابيع "إسلامية خلافة" قيام يعلن [Beirut AFP] ال بغدادي ويابيع "إسلامية خلافة" قيام يعلن ["ISIS" declares the "Islamic caliphate," pledges allegiance to al-Baghdadi]. *Alhayat*.

(2015) Chlorine bomb attacks by jihadists are growing threat to the UK, warns chemical warfare expert. *The Independent.*

(2015) Islamic State- The Pushback. The Economist.

(2015) The Islamic State's spring offensive: al-Sukhna. *Oryx Blog*.

(2015) A*Star scholar charged for poisoning labmates' drinks. TR Emeritus.

The Western Wildlife Unit of the Animal Liberation (2006) Memories of Freedom: Western Wildlife Unit of the Animal Liberation Front. *A New World In Our Hearts*.

104th U.S. Congress (1996) Public Law 104-132: Antiterrorism and Effective Death Penalty Act of 1996.

113th Congress (2014) Report of the Senate Select Committee on Intelligence, Committee Study of the Central Intelligence Agency's Detention and Interrogation Program

Abbott A. (2013) Animal-Rights activists wreak havoc in Milan laboratory. *Nature*.

Ackerman GA (2003) Beyond arson? A threat assessment of the Earth Liberation Front. Terrorism and political violence 15: 143-170

Ackerman GA, Giroux J (2006) A history of biological disasters of animal origin in North America. *Revue scientifique et technique-Office international des Epizooties* 25: 83

Ackerman, GA, Binder M (2014) Anatomizing the Behavior of Chemical and Biological Non-State Adversaries. *PASCC Semi-Annual Workshop on Strategic Stability and WMD*.

Ackerman GA, Pinson LE (2014) An army of one: Assessing CBRN pursuit and use by lone wolves and autonomous cells. *Terrorism and Political Violence* 26: 226-245

Ahlers MM, Todd B (2010) Al Qaeda group contemplated poisoning food in U.S., officials say. CNN.

Albright D et al Syria's Unresolved Nuclear Issues Reemerge in Wake of ISIL Advance and Ongoing Civil War. *Institute for Science and International Security – Imagery Brief*

Ali J (2014) Euphrates Dam... another victim of Syrian war. ARA News.

Al-Somali A-S. Terror Franchise: The Unstoppable Assassin, TECHS Vital role for its success.

American Association for the Advancement of Science (2009) Biological Safety Training Programs as a Component of Personnel Reliability. In Workshop Report.

American Biological Safety Association. (2012) Re: Federal Register Docket CDC-2012-0010.

Andrew C (2000) The sword and the shield: The Mitrokhin archive and the secret history of the KGB. *Basic Books*.

Andrew C (2009) Defend the realm: The authorized history of MI5. Vintage.

Animal Liberation Front. Laboratory Animal Liberation Campaign. http://www.animalliberationfront.com/ALFront/lab.htm. Last Update Accessed August 11, 2015.

Animal Liberation Front. (1994) Animal Liberation Front Press Clippings 1984-1994. *Animal Liberation Frontline*.

Arrabyee N, Hubbard B (2013) Attack on Yemen's Defense Headquarters Is Linked to Al Qaeda. *The New York Times*.

Asal VH et al (2012) Connections can be toxic: Terrorist organizational factors and the pursuit of CBRN weapons. *Studies in Conflict & Terrorism* 35: 229-254

Asamoa-Baah A, et al (2004) Laboratory Biosafety Manual – Third Edition. World Health Organization.

Associated Press. (1999) San Francisco police seeking TB vial stolen from researcher. Deseret News.

Avery D (2009) The Canadian Biological Weapons Program and the Tripartite Alliance. In Deadly cultures: biological weapons since 1945, Wheelis M, Rózsa L, Dando M (eds). *Harvard University Press*

Avery DH (2013) *Pathogens for War: Biological Weapons, Canadian Life Scientists, and North American Biodefence*: University of Toronto Press.

Bartolome MC, Espona MJ (2003) Chemical and Biological Terrorism in Latin America: The Revolutionary Armed Forces of Colombia. *The ASA Newsletter*. 98: 3-5

Bartosiewicz P (2010) Al-Qaeda Woman? Putting Aafia Siddiqui on Trial. Time.

Bartz D. (2010) Analysis: Top Hacker "retires"; experts brace for his return. Reuters.

Beckhusen R. (2012) Mexican Cartels Enslave Engineers to Build Radio Network. Wired.

Bell H (2007) Of Mice and Medicine. Minnesota Medicine.

Bennett C. (2015) Cyberattacks on federal government hit record high. The Hill.

Bennhold K (2015) Young Medics Were Lured by Briton to Join ISIS. The New York Times.

Bergen PL (2002) Holy war, inc.: Inside the secret world of Osama bin Laden: Simon and Schuster.

Berger KM (2012) Bridging Science and Security for Biological Research: A Dialogue between Universities and the Federal Bureau of Investigation.

Berger KM, Roderick J (2014) Bridging Science and Security for Biological Research: Personnel Security Programs.

Biringer BE et al (2007) Security Risk Assessment and Management: A professional practice guide for protecting buildings and infrastructures. *John Wiley & Sons*.

Blake P (2015) US official: 'IS making and using chemical weapons in Iraq and Syria'. BBC News.

Borger J (2001) Cropdusters grounded in poison alert. The Guardian.

Borum R et al (2012) A dimensional approach to analyzing lone offender terrorism. *Aggression and Violent Behavior* 17: 389-396

Brackett D (1996) Holy Terror: Armageddon in Tokyo. Weatherhill

Brumfiel G (2008) Animal-rights activists invade Europe. *Nature*.

Bulos N (2015) Islamic State confirmed to have used mustard gas against Kurds in Syria. The Telegraph.

Bunn M, Sagan SD (2014) A Worst Practices Guide to Insider Threats: Lessons from Past Mistakes. *Order* 2138

Bureau of Industry and Security (2016) Export Administration Regulations Commerce Control List Supplement No. 1 to Part 774.

Burkitt J (1999) Research Animals Taken From Laboratory-Police Suspects Activists Involved in Wwu Break-in. *The Seattle Times*.

Burnett LC (2006) Biosafety practices associated with potential agents of biocrime and biowarfare. *Current protocols in microbiology*: 1A. 2.1-1A. 2.5

Cabery G. (2010) Investigation under way after 5,000 mink freed from farm. The Irish Times.

Cameron G, Pate J (2001) Covert biological weapons attacks against agricultural targets: Assessing the impact against US agriculture. *Terrorism and Political Violence* 13: 61-82

Carrara B, Adams C (2014) On acoustic covert channels between air-gapped systems. In *Foundations and Practice of Security*, pp 3-16. Springer

Carus WS (2001) Rajneeshees (1984). *Toxic terror: Assessing terrorist use of chemical and biological weapons*. Tucker J (ed). MIT Press.

Carus WS (2002) Bioterrorism and biocrimes: the illicit use of biological agents since 1900. *The Minerva Group, Inc.*

Carus WS (2011) RISE: A Case Study. *Encyclopedia of bioterrorism defense*: Katz R, Zilinskas RA (eds) Hoboken: John Wiley & Sons.

Carus WS (2011) Rajneeshees. *Encyclopedia of bioterrorism defense*: Katz R, Zilinskas RA (eds) Hoboken: John Wiley & Sons.

Carus WS (2015) The history of biological weapons use: what we know and what we don't. *Health security* 13: 219-255

Casagrande R, et al (2015) Conducting Risk & Benefit Analysis of Gain of Function Research: Initial Draft Workplan. *Gryphon Scientific, LLC*

Centers for Disease Control and Prevention CDC 90 Day Internal Review of the Division of Select Agents and Toxins. http://www.cdc.gov/phpr/dsat/full-report.htm Last Updated October 23, 2015

Centers for Disease Control and Prevention, Animal and Plant Health Inspection Service (2015) Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Middle East Respiratory Syndrome Coronavirus (MERS-CoV) – Version 2.

Centers for Disease Control and Prevention, Animal and Plant Health Inspection Service Federal Select Agent Program Guidance on the Shipment and Receipt of Packages with Select Agents and Toxins. http://www.selectagents.gov/guidance-shipreceipt.html

Centers for Disease Control and Prevention, Animal and Plant Health Inspection Service (2015) Guidance on the Inventory of Select Agents and Toxins.

Centers for Disease Control and Prevention, Animal and Plant Health Inspection Service (2011) History [of the Select Agents and Toxins Program].

Centers for Disease Control and Prevention, Animal and Plant Health Inspection Service, (2011) Regulatory Impact Analysis & Final Regulatory Flexibility Analysis.

Centers for Disease Control and Prevention, Animal and Plant Health Inspection Service, (2013) Security Guidance for Select Agent or Toxin Facilities: 7 CFR Part 331, 9 CFR Part 121, 42 CFR Part 73.

Centers for Disease Control and Prevention, National Institutes of Health (1999) Biosafety in microbiological and biomedical laboratories (BMBL). In Biosafety in microbiological and biomedical laboratories (BMBL). Department of Health and Human Services

Centers for Disease Control and Prevention, Federal Select Agent Program. Security Guidance for Select Agent or Toxin Facilities. http://www.selectagents.gov/ Accessed October 21, 2015

Chamberlain AT et al (2009) Biosafety training and incident-reporting practices in the United States: A 2008 survey of biosafety professionals. Applied Biosafety *Journal of the American Biological Safety Association* 14: 135

Chikhi L, Felix B (2013) Sahara Islamists take hostages, spreading Mali war. Reuters.

Chivers CJ. (2015) ISIS Has Fired Chemical Mortar Shells, Evidence Indicates. The New York Times.

Choi C. (2002) Lab theft conviction: Former Cornell researcher found guilty of stealing valuable enzymes. *The Scientist*.

Chudacoff D. (2014) 'Water war' threatens Syria lifeline. Al Jazeera.

Clapper JR (2013) Statement for the Record Worldwide Threat Assessment of the US Intelligence Community Senate Select Committee on Intelligence March 12, 2013. URL: http://www.intelligencesenate.gov/130312/clapper.pdf: 22

Cockburn P (2014) War with Isis: Islamic militants have army of 200,000, claims senior Kurdish leader. *The Independent*.

Coghlan T, et al (2015) Jihadists unleash chemical weapons in battle for Tikrit. The Times.

Committee on Homeland Security (2015) Chairman McCaul Releases August 'Terror Threat Snapshot'.

Committee on Prevention of Proliferation of Biological Weapons et al (2007) The Biological Threat Reduction Program of the Department of Defense: From Foreign Assistance to Sustainable Partnerships.

Connell N (2011) Biological Agents in the Laboratory- The Regulatory Issues. *Public Interest Report* [Federation of American Scientists] 64

Cook CW (2008) Mexico's drug cartels.

Corral G. (2011) Stand up against the anti-technology terrorists. *Nature News*.

Corrigan D, (2004) Summary Report on Select Agent Security at Universities (A-04-04-02000).

Crozier D (1992) History of the Commission on Epidemiological Survey. In The Armed Forces Epidemiological Board. The Histories of the Commissions, Woodward TE (ed). DTIC Document

Cullison A (2004) Inside Al-Qaeda's hard drive. The Atlantic Monthly 294: 55-65

Cullison A, Higgings A (2001) Computer in Kabul holds chilling memos. The Wall Street Journal

Daly S *et al* (2005) Aum Shinrikyo, Al Qaeda, and the Kinshasa Reactor: Implications of Three Case Studies for Combating Nuclear Terrorism. DTIC Document

Danzig R, et al., (2012) Aum Shinrikyo: Insights into how terrorists develop biological and chemical weapons, second edition. *Center for a New American Security*.

Doornbos H, Moussa J (2014) Found: The Islamic State's Terror Laptop of Doom. Foreign Policy

Dorf M (1997) Questions lingering after bizarre mailing to B'nai B'rith. J Weekly.

Dorgan CB et al (2002) ASHRAE laboratory design guide. ASHRAE Transactions 108: 221

Duelfer C (2004) Comprehensive Report of the Special Advisor to the DCI on Iraq's WMD, Vol. 1-3: *Central Intelligence Agency*.

Duyvesteyn I (2004) How new is the new terrorism? Studies in Conflict & Terrorism 27: 439-454

Elbagir N, Formanek I (2013) Malian troops take key town; humanitarian crisis grows. CNN.

Enemark C (2007) Disease and security: natural plagues and biological weapons in East Asia. Routledge.

Executive Order 13546, Sec. 4. Executive Order 13546 (2010) Optimizing the Security of Biological Select Agents and Toxins in the United States

Federal Bureau of Investigation (FBI), Elicitation Technique. https://www.fbi.gov/about-us/investigate/counterintelligence/elicitation-techniques

Federal Bureau of Investigation (FBI) Glossary of Terms http://www.fbi.gov/about-us/investigate/organizedcrime/glossary. Accessed on July 13, 2015.

Federal Bureau of Investigation (FBI) Internet Social Networking Risks. https://www.fbi.gov/about-us/investigate/counterintelligence/internet-social-networking-risks. Accessed August 11, 2015.

Federal Bureau of Investigation (FBI) Most Wanted Terrorists: Daniel Andreas San Diego https://www.fbi.gov/wanted/wanted_terrorists/daniel-andreas-san-diego/view.

Federal Bureau of Investigations (FBI) Terrorism in the United States, 1998.

Federal Bureau of Investigation (FBI) Terrorism in the United States 1999.

Federal Bureau of Investigation (FBI) Terrorism 2000/2001.

Federal Bureau of Investigation (FBI) Terrorism 2002-2005.

Federal Bureau of Investigation (FBI) (2002) The Terrorist Threat

Federal Bureau of Investigation (FBI) (2005) The Pursuit and Capture of Eric Rudolph: Part 1 of an Interview with FBI Exec Chris Swecker https://www.fbi.gov/news/stories/2005/may/swecker_051605.

Federal Bureau of Investigation (FBI) (2009) New Most Wanted Terrorist: First Domestic Fugitive Added to List. https://www.fbi.gov/news/stories/2009/april/wanted_042109. Accessed August 27, 2015.

Federal Bureau of Investigation (FBI) (2012) Domestic Threat: White Supremacy Extremism.

Federal Bureau of Investigation (FBI) (2013) Insider Threat-Soldier Receives 16-Year Sentence for Attempted Espionage. https://www.fbi.gov/news/stories/2013/april/soldier-receives-16-year-sentence-for-attempted-espionage/soldier-receives-16-year-sentence-for-attempted-espionage. Accessed July 15, 2015.

Fenton B (2004) DVLA mole jailed for aiding guinea pig farm activists. The Telegraph.

Fielding J, Giannangeli M (2013) British Aid Worker Executed By Taliban. Daily Express.

Fielding N (2001) Encyclopedia of Terror: Revealed: The bloody pages of Al-Qaeda's killing manual. *The Sunday Times of London.*

Financial Action Task Force (FATF) (2015) Financing of the Terrorist Organisation Islamic State in Iraq and the Levant (ISIL).

Forest JJ, Salama S (2009) Jihadist Tactics and Targeting. *Jihadists and weapons of mass destruction*: Ackerman G, Tamsett J (eds) CRC Press.

Fox M (2011) Charles Epstein, Leading Medical Geneticist Injured by Unabomber, Dies at 77. *The New York Times*.

Frabotta D. (2005) Vandals upend University of Iowa lab. DVM360 Magazine.

Francis D. (2015) Al Qaeda's Blueprint For How To Start a Homegrown Terror Franchise. *Foreign Policy*.

Franz DR, LeDuc JW (2011) Balancing our approach to the insider threat. *Biosecurity and bioterrorism:* biodefense strategy, practice, and science 9: 205-207

Ganor B, Wernli MH. (2013) Terrorist Attacks against Hospitals Case Studies. *International Institute for Counter-Terrorism*.

Gaudioso J et al (2006) Laboratory biosecurity: A survey of the US bioscience community. Applied Biosafety 11: 138

Gaudioso J et al (2009) Strengthening risk governance in bioscience laboratories. Albuquerque: Sandia National Laboratories

Gellman B. (2003) Al Qaeda Near Biological, Chemical Arms Production. Washington Post.

Gill P (2015) Lone-Actor Terrorists: A Behavioural Analysis: Routledge.

Gmuender F, Fischer D (2010) Assessing Safety Culture in Biorisk Facilities. Basler & Hoffman

Gould C, Hay A (2006) *Deadly cultures: biological weapons since 1945*. Wheelis M, Rózsa L (eds). *Harvard University Press*

Global Terrorism Database. Indexed in the START GTD ID: 200109200006. http://apps.start.umd.edu/gtd/search/IncidentSummary.aspx?gtdid=200109200006. Accessed June 29, 2015.

Graham R. Because dossiers. http://blog.erratasec.com/2015/06/because-dossiers.html#.VbfWTPnZViY. Last Updated June 16, 2015 Accessed August 11, 2015.

Guitta O (2010) Al-Qaeda in the Islamic Maghreb: A Threat for the West. *Defence Against Terrorism Review*, 3: 1

Gunter FR (2014) The ISIL Invasion of Iraq: Economic Winners and Losers. *Foreign Policy Research Institute*.

Harisson L, Miller JE (2011) Larry Wayne Harris. *Encyclopedia of bioterrorism defense*: Katz R, Zilinskas RA (eds) Hoboken: John Wiley & Sons.

Hartocollis A, Baker A. (2011) Doctor Accused of Crimes Against Mice and Lab. *New York Times – City Room Blog*.

Hawramy F, et al (2014) Inside Islamic State's oil empire: how captured oilfields fuel Isis insurgency. *The Guardian*.

Hill L, Deveau S, De Vynck G (2014) Canadians from Calgary to Timmins heed ISIL's tweets. *Bloomberg*.

Hoffman B (2006) Inside Terrorism. Columbia University Press.

Holland L (2006) Couple Admits Cell Line Theft. The Harvard Crimson.

Homer LC *et al* (2013) Guidelines for Biosafety Training Programs for Workers Assigned to BSL-3 Research Laboratories. *Biosecurity and bioterrorism: biodefense strategy, practice, and science* 11: 10-19

Hope BK, Elrod S (2005) Risk assessment in bioterrorism. Encyclopedia of Bioterrorism Defense

Horowitz MC (2010) Nonstate actors and the diffusion of innovations: The case of suicide terrorism. *International Organization* 64: 33-64

Hunt E (2005) Zarqawi's 'Total War' on Iraqi Shiites Exposes a Divide among Sunni Jihadists. *The Washington Institute for Near East Policy*

IHS Jane's (2004) RIA-Novosti news agency reported on ... Jane's Intelligence Watch Report.

International Research Center (IRC) (2008) Zawahiri Tries to Clear Name, Explain Strategy. *Transnational Security Issues Report*.

Ismail J (1999) I Am Not Afraid of Death. Newsweek.

Jaffe H et al (2013) Extra oversight for H7N9 experiments. Science 341: 713-714

Jones C (2006) Al-Qaeda's innovative improvisers: Learning in a diffuse transnational network. *Cambridge Review of International Affairs* 19: 555-569

Jones P (1991) HIV transmission by stabbing despite zidovudine prophylaxis. The Lancet 338: 884

Joosse AP, Milward HB (2014) Organizational Versus Individual Attribution: A Case Study of Jemaah Islamiyah and the Anthrax Plot. *Studies in Conflict & Terrorism* 37: 237-257

Kaiser J (2014) Moratorium on risky virology studies leaves work at 14 institutions in limbo. *ScienceInsider* [

Kaplan DE (2000) Aum Shinrikyo. In *Toxic terror: Assessing terrorist use of chemical and biological weapons*. Tucker JB (ed). MIT Press

Kaspersky E (2013) One in Twenty is the Sad Truth. *Kaspersky Lab*. https://eugene.kaspersky.com/2013/03/25/one-in-twenty-is-the-sad-truth/. Accessed July 31, 2015.

Kaspersky Lab Global Research and Analysis Team (2014) Energetic Bear – Crouching Yeti. *Kaspersky Lab*.

Kaspersky Lab Global Research and Analysis Team (2014) The Epic Turla Operation: Solving some of the mysteries of Snake/Uroburos. *SecureList*.

Knickmeyer E, Finer J, (2006) Insurgent Leader Al-Zarqawi Killed in Iraq. The Washington Post

Kolavic SA *et al* (1997) An outbreak of Shigella dysenteriae type 2 among laboratory workers due to intentional food contamination. *Jama* 278: 396-398

Lake E (2009) Al Qaeda bungles arms experiment," The Washington Times.

Langill JT (2014) Defending Against the Dragonfly Cyber Security Attacks (White Paper). Belden.

Laub Z, Masters J (2014) Islamic State in Iraq and Greater Syria. *The Council on Foreign Relations June* 12

Leitenberg M (2005) Assessing the biological weapons and bioterrorism threat. *Strategic Studies Institute*.

Leitenberg M, Zilinskas R (2012) *The Soviet Biological Weapons Program: A History*. Harvard University Press.

Lepick O (2006) The French Biological Weapons Program. *Deadly cultures: biological weapons since* 1945. Wheelis M, Rózsa L (eds). *Harvard University Press*

Levinson DR, (2006) Summary Report on Universities' Compliance with Select Agent Regulations (A-04-05-02006).

Levinson DR, (2008) Summary Report on State, Local, Private, and Commercial Laboratories' Compliance With Select Agent Regulations (A-04-06-01033).

Lewis JD (2013) Al-Qaeda in Iraq Resurgent: The Breaking The Walls Campaign, Part I. *Institute for the Study of War*.

Lewis JE, Deputy Assistant Director (FBI) (2004) Testimony Before the Senate Judiciary Committee.

Lopatka J, Williams A (2013) Video of kidnapped Czechs demands release of jailed Pakistani. Reuters.

Macdonald D, Manky D FortiGuard. Zeus: God of DIY Botnets. http://www.fortiguard.com/legacy/analysis/zeusanalysis.html. Accessed July 31, 2015.

Maher B. (2010) Research integrity: Sabotage! Nature News.

Maher B. (2011) Lab sabotage deemed research misconduct (with exclusive surveillance video). *Nature News Blog*.

McAllister B (2004) Al Qaeda and the innovative firm: demythologizing the network. *Studies in Conflict & Terrorism* 27: 297-319

McGlynn A. (2009) Activist who refused grand jury testimony now charged with conspiracy. *Lancaster Online*.

McKinney RJ (2006) Basic Overview on How Federal Laws Are Published, Organized and Cited. *Law Librarian's Society of Washington, DC http://www llsdc org/attachments/wysiwyg/544/Federal-Laws pdf(Downloaded 12 December 2009)*

Miller J (2002) Lab Suggests Qaeda Planned to Build Arms, Officials Say. The New York Times.

Miller J (2003) U.S. Has New Concerns About Anthrax Readiness. The New York Times.

Millett P (2006) Antianimal Biological Weapons Program. *Deadly cultures: biological weapons since 1945*. Wheelis M, Rózsa L (eds) Harvard University Press.

Mohtadi H (2006) A global chronology of incidents of chemical, biological, radioactive and nuclear attacks: 1950-2005. Department of Homeland Security. We are grateful to Major Adam Wickersham, US Army,

Monke J (2006) Agroterrorism: Threats and preparedness. Congressional Research Service.

Moddie M, Binder M (2009) Jihadists and Chemical Weapons. *Jihadists and weapons of mass destruction*: Ackerman G, Tamsett J (eds) CRC Press.

Moody KJ et al (2014) Nuclear forensic analysis: CRC Press.

Moran H, Costanzo J (1997) 3 animal rights activists are back in court. Deseret News

Mowatt-Larssen R (2010) Al Qaeda's Pursuit of Weapons of Mass Destruction. Foreign Policy.

Mowatt-Larssen R, Allison GT (2010) Al Qaeda Weapons of Mass Destruction threat: hype or reality?: Belfer Center for Science and International Affairs.

Mowatt-Larssen R (2015) How to Get Terrorists to Talk. The National Interest.

Mowatt-Larssen R (2011) *Islam and the Bomb: Religious Justification For and Against Nuclear Weapons*: Harvard Kennedy School, Belfer Center for Science and International Affairs.

National Consortium for the Study of Terrorism and Responses to Terrorism (START) (2012) Countering Eco-Terrorism in the United States: The Case of 'Operation Backfire'. *U.S. Department of Homeland Security*.

National Consortium for the Study of Terrorism and Responses to Terrorism (START). Terrorist Organization Profiles: Lashkar-e-Jhangvei.

http://www.start.umd.edu/tops/terrorist_organization_profile.asp?id=65.

National Counterterrorism Center. Jemaah Islamiyah (JI). http://www.nctc.gov/site/groups/ji.html. Last Updated September 2013.

National Institutes of Health. Implementation of the USG Policy for Institutional Oversight of Life Sciences DURC: Illustrative Case Studies. http://www.phe.gov/s3/dualuse/Documents/12-case-studies-durc.pdf. Last Updated September 2014. Accessed on September 18, 2015.

National Institutes of Health. Frequently Asked Questions: NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules.

http://osp.od.nih.gov/sites/default/files/Synthetic_FAQs_April_2013.pdf. Accessed September 18, 2015.

National Institutes of Health. NIH Guidelines website. Accessible at http://osp.od.nih.gov/office-biotechnology-activities/biosafety/nih-guidelines. Accessed on September 18, 2015.

National Institutes of Health (2013) NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (NIH Guidelines).

National Institutes of Health (2013) NIH Grants Policy Statement 4.1.12 Health and Safety Regulations and Guidelines.

National Institutes of Health. (2014) Tools for Identification, Assessment, Management, and Responsible Communication of Dual Use Research of Concern. A Companion Guide to the United States Government Policies for Oversight of Life Sciences Dual Use Research of Concern.

National Institutes of Health NIAID (2015) NIAID Select Agent Policy for Foreign Institutions Questions and Answers. http://www.niaid.nih.gov/researchfunding/qa/pages/selagentfor.aspx#standard. Accessed November 11, 2015.

National Research Council of the National Academies (2011) Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards, Updated version. *The National Academies Press*.

National Research Council of the National Academies (2011) Review of the Scientific Approaches Used During the FBI's Investigation of the 2001 Bacillus Anthracis Mailings. *The National Academies Press*.

National Science Advisory Board for Biosecurity (NSABB) (2009) Enhancing Personnel Reliability among Individuals with Access to Select Agents.

National Science Advisory Board for Biosecurity (NSABB) (2006) Addressing Biosecurity Concerns Related to the Synthesis of Select Agents.

National Science Advisory Board for Biosecurity (NSABB) (2011) Guidance for Enhancing Personnel Reliability and Strengthening the Culture of Responsibility.

National Science and Technology Council (2015) Fast Track Action Committee Report: Recommendations on the Select Agent Regulations Based on Broad Stakeholder Engagement.

Nelson GH (2011) POLISARIO. *Encyclopedia of bioterrorism defense*: Katz R, Zilinskas RA (eds) Hoboken: John Wiley & Sons.

Newkirk I (2000) Free the animals: The amazing true story of the Animal Liberation Front: Lantern Books.

Neumann P (2009) Old and New Terrorism Malden: Polity Press.

Parachini JV (2000) The Weather Underground (1970). *Toxic terror: Assessing terrorist use of chemical and biological weapons*. Tucker J (ed). MIT Press.

Neumann P (2009) Old and New Terrorism Malden: Polity Press.

Occupational Safety and Health Administration (OSHA). OSHA's interpretation, based on 29 CFR 1030(e)(2)(iii)(B). U.S. Government Publishing Office, "Title 29: Labor, §1910.1030 Bloodborne pathogens. http://www.ecfr.gov/cgi-

 $bin/retrieve ECFR?gp = \&SID = 3c86911ce71d159de28dea2738f1d687\&r = SECTION\&n = se29.6.1910_110\\30.$

Occupational Safety and Health Administration (OSHA) (2011) Fact Sheet-Laboratory Safety Biosafety Cabinets (BSCs).

Occupational Safety and Health Administration (OSHA) (2011) Laboratory Safety Guidance," OSHA 3404-11R.

Office of the Director of National Intelligence. Bin Laden's Bookshelf http://www.dni.gov/index.php/resources/bin-laden-bookshelf?start=1. Accessed June 30, 2015.

Office of the National Counterintelligence Executive (20110 Report to Congress on Foreign Economic Collection and Industrial Espionage.

Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, Defense Science Board (2009) Report of the Defense Science Board Task Force on Department of Defense Biological Safety and Security Program.

Parra Gallego PE (2015) IEDs: A major threat for a struggling society. *Journal of ERW and Mine Action* 13: 19

Pate J et al (2000) WMD Terrorism Chronology: Incidents Involving Sub-National Actors and Chemical, Biological, Radiological, or Nuclear Materials. *Center for Nonproliferation Studies, Monterey Institute for International Studies*.

Patterson AP et al (2013) A framework for decisions about research with HPAI H5N1 viruses. *Science* 339: 1036

Pearson GS (2006) The Iraqi Biological Weapons Program. *Deadly cultures: biological weapons since 1945*. Wheelis M, Rózsa L (eds) Harvard University Press.

Permanent Representative of the United States of America (2013) Letter dated 11 October 2013 to the United Nations addressed to the Chairman of the Committee pursuant to resolution 1540 (2004). *UN Security Council*.

Pervez F (2011) Jemaah Islamiyah. Encyclopedia of Bioterrorism Defense

Petro JB, Relman DA (2003) Understanding threats to scientific openness. Science 302: 5652

Phillips L (2012) Anarchists attack science. Nature. 485: 561

PIR Center. WMD Terrorism Originated in North Caucasus: Again on the Agenda? Report. http://www.pircenter.org/en/articles/1312-wmd-terrorism-originated-in-north-caucasus-again-on-the-agenda. Last Updated April 23, 2013.

Pita R, et al (2009) Al Qaeda in the Islamic Maghreb (AQIM) and the Alleged Production of the Etiological Agent of Plague. *ASA Newsletter* 131: 1-29

Pita R, Gunaratna R (2009) Revisiting al-Qaida's anthrax program. CTC Sentinel 2: 10-13

Pouliot Y, Sheer JL (2011) Influenza *Encyclopedia of bioterrorism defense*: Katz R, Zilinskas RA (eds) Hoboken: John Wiley & Sons.

PRLOG. Schubert E. International Gene Synthesis Consortium Forms Not-for-Profit Corporation. http://www.prlog.org/12450359-international-gene-synthesis-consortium-forms-not-for-profit-corporation.html. Last Updated April 25, 2015 Accessed September 18, 2015.

Rahner M (1999) Equipment is Destroyed at WSU Research Center- Animal Liberation Front Claims Responsibility. *The Seattle Times*.

Reid R (2010) Citroen eTouch emergency panic button calls cops automatically. CNET.

Ressa M (2003) Reports: Al Qaeda operative sought anthrax. CNN.

Reynolds L, McKee M (2010) Organised crime and the efforts to combat it: a concern for public health. *Globalization and health* 6: 1

Roberts J (2003) Thailand PM: Hambali Was Plotting. CBS News.

Rodriguez M, et al (2003) Suspect is Sought in Bombings. Los Angeles Times.

Roggio B. (2011) Zawahiri claims al Qaeda is holding US citizen hostage. *Long War Journal – Threat Matrix*.

Rosen R. (1999) Medical waste found in lot, Swastika drawn on container at Congregation Beth El school. *The Hour*.

Salama S, Bursac E (2009) Jihadist Capabilities and the Diffusion of Knowledge. *Jihadists and weapons of mass destruction*: Ackerman G, Tamsett J (eds) CRC Press.

Salama S, Hansell L (2005) Does intent equal capability? Al-Qaeda and weapons of mass destruction. *Nonproliferation Review* 12: 615-653

Sandia National Laboratories (2006) Laboratory Biosecurity: A Survey of the U.S. Bioscience Community.

Saseendran S (2014) Ministry mulls banning 'killer' pesticide. *Khaleej Times*.

Sayigh Y (2015) The War Over Syria's Gas Fields. Carnage Endowment for International Peace 8

Schneider K (1987) Theft of Infected Cats From U.S. Lab Spurs Alert. The New York Times.

Schram J (2011) Doctor upset over losing hospital fellowship allegedly stole scientific materials, shuffled around lab rats. *New York Post*.

Shamah D (2014) Israeli firm busts 13-year-long Europe hack attack. Times of Israel.

Shane S (2015) Homegrown Extremists Tied to Deadlier Toll Than Jihadists in U.S. Since 9/11. *The New York Times*.

Sieber S (2003) FBI investigates Vet School break-in. LSU Reveille.

Sim M (2015) A*Star scholarship holder Ouyang Xiangyu expelled from Stanford. The Straits Times.

Simon J (2000) The Alphabet Bomber (1974). *Toxic terror: Assessing terrorist use of chemical and biological weapons*. Tucker J (ed). MIT Press.

Sims NA (2006) Legal Constraints on Biological Weapons. *Deadly cultures: biological weapons since 1945*. Wheelis M, Rózsa L (eds) Harvard University Press.

Sly L (2014) Al-Qaeda disavows any ties with radical Islamist ISIS group in Syria, Iraq. *The Washington Post*.

Smithson AE et al (2000) Ataxia: the chemical and biological terrorism threat and the US response: *Henry L. Stimson Center*

Soffer A. (2013) Experts Warn of Al Qaeda Biological Weapons Threat. Israel National News.

Sorensen E Activists vandalize WSU labs, release research animals. The Spokesman-Review.

Stepanova E (2004) From Dubrovka to Beslan: Who is learning faster? *Institute of World Economy and International Relations*

Stern JE (2000) The Covenant, the Sword, and the Arm of the Lord (1985). *Toxic terror: Assessing terrorist use of chemical and biological weapons*. Tucker J (ed). MIT Press.

Tenet G (2007) At the Center of the Storm: My Years at the CIA: The New York Times® Best Sellers: Books.

Theohary C, Rollins J (2011) Terrorist Use of the Internet: Information Operations in Cyberspace. *Congressional Research Service*.

Thomas J (2002) California Doctor's Suicide Leaves Many Troubling Mysteries Unsolved. *The New York Times*.

Torchia C. (2006) Experts: Bioterrorism Should Worry Asia. Associated Press.

Török TJ *et al* (1997) A large community outbreak of salmonellosis caused by intentional contamination of restaurant salad bars. *Jama* 278: 389-395

Tuckman J (2015) Mexican officials: 43 killed in major offensive against drug cartel. *The Guardian*.

TVL Limburg. https://web.archive.org/web/20080208121228/http://www.tvl.be/nl/nieuws/2008-02-03/brandstichting-alf-op-luc/. Accessed June 29, 2015.

U.N. Monitoring, Verification and Inspection Commission (UNMOVIC) (2006) Compendium: Chapter V: The Biological Weapons Programme.

U.N. Biological Weapons Convention Implementation Support Unit. Membership of the Biological Weapons Convention.

 $http://www.unog.ch/__80256ee600585943.nsf/\% 28httpPages\% 29/7be6cbbea0477b52c12571860035fd5c? OpenDocument\& ExpandSection=1\#_Section1.$

U.N. Office for Disarmament Affairs (1925) 1925 Geneva Protocol: Protocol on the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare.

U.N. Secretary-General (1995) Report submitted by the Executive Chairman of the Special Commission established by the Secretary-General pursuant to paragraph 9 (b) (i) of Security Council resolution 687 (1991).

U.N. Security Council Committee pursuant to resolutions 1267, 1989, and 2161 concerning ISIL (Da'esh) Al-Qaida and associated individuals groups undertakings and entities (2014) Narrative Summaries of Reasons for Listing Nurjaman Riduan Isamuddin

- U.N. Security Council (2014) Letter dated 13 November 2014 from the Chair of the Security Council Committee pursuant to resolutions 1267 (1999) and 1989 (2011) concerning Al-Qaida and associated individuals and entities addressed to the President of the Security Council.
- U.N. Security Council (2004) Resolution 1540.
- U.S. Department of Commerce, Deemed Exports and Fundamental Research for Biological Items.
- U.S. Department of the Army, Department of the Army (1977) "U.S. Army Activity in the U.S. Biological Warfare Programs, Volume 1.
- U.S. Department of the Army, Department of the Army (1977) "U.S. Army Activity in the U.S. Biological Warfare Programs, 1942-1977, Volume 2.
- U.S. Department of Defense, Department of the Army (2008) Army Regulation 50-1: Biological Surety.
- U.S. Department of Defense, General Guidelines for Awards Funded by the Department of Defense (DoD).
- U.S. Department of Defense, Defense Science Board Task Force (2009) Department of Defense Biological Safety and Security Program.
- U.S. Department of Health and Human Services. Biosafety and Biocontainment FAQs. http://www.phe.gov/s3/faqs/Pages/biosafety.aspx . Accessed October 2, 2015.
- U.S. Department of Health and Human Services (2010) Screening Framework Guidance for Providers of Synthetic Double-Stranded DNA.
- U.S. Department of Health & Human Services (2012) United States Government Policy for Oversight of Life Sciences Dual Use Research of Concern.
- U.S. Department of Health and Human Services (2013) A Framework for Guiding U.S. Department of Health and Human Services Funding Decisions about Research Proposals with the Potential for Generating Highly Pathogenic Avian Influenza H5N1 Viruses that are Transmissible among Mammals by Respiratory Droplets.
- U.S. Department of Health and Human Services (2014) Report of the Federal Experts Security Advisory Panel.
- U.S. Department of Health and Human Services (2012) USG Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern.
- U.S. Department of Health and Human Services (2014) USG Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern.
- U.S. Department of Health and Human Services (2015) Fact Sheet: Enhancing Biosafety and Biosecurity.
- U.S. Department of Labor. Occupational Injuries/Illnesses and Fatal Injuries Profiles. http://data.bls.gov/gqt/InitialPage.

- U.S. Department of State. Foreign Terrorist Organizations. http://www.state.gov/j/ct/rls/other/des/123085.htm. Last Updated December 12, 2015.
- U.S. Department of State (2014) Country Reports on Terrorism 2013 Chapter 6. Foreign Terrorist Organization.
- U.S. Department of Transportation (2006) Transporting Infectious Substances Safely.
- U.S. District Court Southern District of New York, United States vs Aafia Siddiqui, (S.D.N.Y 2010).
- U.S. Government Publishing Office. Electronic Code of Federal Regulations. www.ecfr.gov. Last Updated April 7, 2016.
- U.S. Northern Command (USNORTHCOM) (2009) Concept of Operations Plan (CONPLAN) 3551-09, Concept Plan to Synchronize DOD Pandemic Influenza Planning.
- U.S. Office of the Federal Register. http://www.ofr.gov/Catalog.aspx.
- U.S. Supreme Court, *Bond v. United States*, 564 U.S. ____ (2014) (No. 12-158).
- U.S. Supreme Court, *Medellín v. Texas*, 552 U.S. 491 (2008) (No. 06-984).

University of California, Irvine. Shipper's Responsibilities. http://www.ehs.uci.edu/programs/dgoods/

University of Colorado Boulder, Office of the Vice Chancellor for Research, Research Administration and Support. ORI (Compliance), Export Controls, Guidance, Biological Agents. http://www.colorado.edu/vcr/export-controls/guidance/biological-agents

University of Virginia. Shipping Infectious Substances by Air. http://ehs.virginia.edu/biosafety/bio.transport.air.html

UPS. Infectious Substances, Category A.

http://www.ups.com/content/us/en/resources/ship/hazardous/responsible/diagnostic.html

Van Courtland-Moon JE (2006) The U.S. Biological Weapons Program. *Deadly cultures: biological weapons since 1945*. Wheelis M, Rózsa L (eds) Harvard University Press.

von Mittelstaedt J (2008) America's Most Wanted: 'The Most Dangerous Woman in the World'. *Spiegel Online*.

Walsh D, Schmitt E. (2012) Militant Leader Believed Dead in Pakistan Drone Strike. *The New York Times*.

Warrick J (2006) Suspect and A Setback in Al-Qaeda Anthrax Case. The Washington Post.

Watch DD (2002) Building type basics for research laboratories, Vol. 5: John Wiley & Sons.

Weiser B. (2008) Indictment Hints of Plan to Attack Landmarks. The New York Times.

Wheelis, M (1999) Biological Sabotage in World War I. *Biological and Toxin Weapons: Research, Development and Use from the Middle Ages to 1945*. Geissler E, van Courtland Moon JE (eds) Oxford University Press.

Whitehead T (2015) Fears Russian tycoon Alexander Perepilichnyy may have been poisoned with rare plant. *Telegraph*.

World Health Organization (2002) World Health Organization inspects Russian smallpox laboratory.

World Health Organization, UNAIDS (2004) Kuwait: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections, 2004 Update.

Yusufzai M (2010) Taliban to execute US soldier if Aafia not released. The News.

Zadig S, Tejay G (2012) Emerging Cybercrime Trends: Legal, Ethical, and Practical Issues. *Investigating Cyber Law and Cyber Ethics: Issues, Impacts and Practices*. Alfreda Dudley, et al (eds) IGI Global.

Zilinskas R (2011) "Diane Thompson: A Case Study," Encyclopedia of Bioterrorism Defense, 2nd Edition, eds. Rebecca Katz, Raymond A. Zilinskas Hoboken: John Wiley & Sons.