

MOST SIGNIFICANT CONTRIBUTIONS

Q fever: In 1999 I investigated an outbreak of *Coxiella burnetii* infection (Q fever) in farmers in a goat cooperative in rural Newfoundland. I designed, planned and executed the epidemiological investigation including designing data collection forms and collecting data and serum from over 150 participants. This was the first time that Q fever had been documented in Newfoundland, and it was the first time *C. burnetii* infection was associated with the consumption of a pasteurized cheese product. The initial investigation and follow up study has generated data for seven publications in peer reviewed journals [includes Hatchette TF, et al., Goat associated Q fever, a new disease in Newfoundland. *Emerging Infectious Diseases* 2001; 7:413-419].

Influenza A: In 2004 I completed an 18-month postdoctoral fellowship under the supervision of Robert G. Webster, the director of the WHO collaborating center for the study of the ecology of animal influenza viruses at ST. Jude Children's Research Hospital in Memphis Tennessee. During my postdoctoral training I examined reassortment patterns of influenza viruses circulating in wild Canadian ducks the data from which was published in the 2004 [Hatchette TF, et al., *J. of Gen. Virol* 2004; 85:2327-2337]. I recently completed experiments examining the role that the influenza NS gene plays in host restriction and am currently a co-investigator on a three year NSHRF grant looking at the regulation of cytokine mRNA turnover by influenza virus and its impact on Stress granule formation. A manuscript has just been published in *FASEB Journal* (Khapersky DA, Hatchette TF, McCormick C. Influenza A virus inhibits cytoplasmic stress granule formation). I am also a co-applicant or collaborator on three CHIR team grants directed at investigating different aspects of pandemic influenza including the PHAC-CIHR Influenza Research Network where I am part of the Laboratory theme that provides diagnostic support to the other themes. My laboratory has implemented hemagglutination inhibition assays and streamlined micro-neutralization assays for the serologic diagnosis of influenza infection.

Clinical and Diagnostic Virology: As the Province's only Medical Virologist and one of two co-Directors of Immunology, Virology and Molecular Diagnostics at the QEII Health Science Center I oversee the running of the clinical virology laboratory. In this position I have a lot of experience with diagnostic evaluation and protocol design. Our laboratory was the first in Canada to diagnose the pandemic H1N1 in 2009. In collaboration with the National Microbiology Laboratory we quickly validated a PCR based method used for identification and subtyping of the novel strain. Through the course of investigating the first cluster and optimizing laboratory testing my lab published 5 manuscripts and reviews including; Cutler J, Schleihauf E, Hatchette TF, et al., 2009. *CMAJ* 181:159. I also played a significant role in managing the mumps outbreaks that occurred in Nova Scotia in 2006 and 2007 by overseeing the diagnostic testing and the implementation of real-time methods. We conducted studies examining the performance characteristics of IgM serology and trying to identify viral pathogens that may act as mumps mimickers causing mumps like illness. To date, four manuscripts have been generated including one published in *CMAJ* in which I am the senior author [Watson-Creed et al., *CMAJ* 2006 175:483-488].

Public Health: I have played a significant role in the Public Health response to the Pandemic at a local, provincial and national level. I was the co-chair of the Surveillance Epidemiology and Laboratory task group, the Canadian Public Health Laboratory Network representative and a member of the Clinical Care and Antiviral Task group on the national Pandemic Co-coordinating Committee. As a member of these groups, I have written or contributed to the generation of 5 technical documents outlining guidance on elements of the pandemic response including the Laboratory guidance on best practices for the diagnosis of pandemic H1N1.

ACTIVITIES/CONTRIBUTIONS**Select active committee membership:**

1. Councilor – Canadian Association of Clinical Microbiology and Infectious Disease.
2. Councilor – Association of Medical Microbiology and Infectious Disease Canada
3. Pandemic Preparedness Oversight Committee (PCC): CPHLN representative (National)
4. Pandemic Influenza Laboratory Preparedness Network (National): **Provincial co-Chair**
5. Canadian Pandemic Preparedness Meeting (CIHR) Programme sub-committee
6. Canadian Association of HIV Clinical Laboratory Specialists (National)
7. RCPC Specialty Committee in Infectious Diseases, Nucleus Committee Member
8. Infectious Disease Expert Group on H1N1 (Provincial)
9. Canadian Biosafety Standards and Guidelines Expert Working Group
10. National Surveillance Infrastructure Task Group
11. Nova Scotia Vector Borne Disease Working Group (Provincial)

Reviewer:

Journals: Ad Hoc reviewer for the following Journals: Canadian Journal of Infectious Diseases, Clinical Infectious Diseases, Canadian Journal of Microbiology, Microbes and Infection, Journal of Perinatology, Canadian Journal of Ophthalmology, Pediatric Journal of Infectious Diseases, Vaccine

Grants: I have been Internal Reviewer for: CIHR (Pandemic RFAs, Vaccines of the 21st century); External Reviewer for CIHR; NIH reviewer: Special Emphasis Panel 2011/05 ZAI1 ESB-M (M1)

Teaching:

I am the current Program Director of the Infectious Diseases and Medical Microbiology Residency Programs at Dalhousie University. Ongoing teaching of undergraduate microbiology students and undergraduate and postgraduate medical students and residents

Selected Non- Peer reviewed publications / Technical Documents:

1. Interim Guidance for Laboratory Testing for Detection and Characterization of Pandemic H1N1 (2009) (PILPN including **Hatchette TF** – Co-Chair of the committee)
http://www.cphln.ca/CPHLN/src/documents/EN_H1N1_Best_Practice_Final_Version.pdf
2. FPT task group on Outbreak Guidelines (including **TF Hatchette**): Guidelines for the Prevention and Control of Mumps Outbreaks in Canada. January 2010. CCDR Volume 36s1. <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/10vol36/index-eng.php>

Selected oral presentations and lectures:

1. Hatchette TF. Influenza Diagnostics: Are we ready for the Influenza Season. American Thoracic Society Annual meeting. Denver, CO (May 18, 2011)
2. Hatchette TF. Respiratory Virus Diagnosis: What's State of the Art 2011? CSMLS National Congress of Medical Laboratory Science. Hatchette TF.
3. The Mystery of Influenza Virus and Diagnostic Enigmas. Association of Medical Microbiology and Infectious Diseases (AMMI) of Canada plenary lecture, Edmonton. (May, 2010)
4. Hatchette TF. Pandemic H1N1. CHICA Nova Scotia. Halifax NS. (November 2009)
5. Hatchette TF. A/H1N1 Human Swine Influenza: The Evolution of a Virus in "Real Time". Canadian Biosafety Symposium. Halifax, NS (June 2009)
6. Hatchette TF. Understanding Serology. CHICA Canada annual Conference. St.John's NF (May, 2009)
7. Hatchette TF. Students, Saliva and Swellings; The Perfect Storm for the Sharing of Mumps. Association of Medical Microbiology and Infectious Diseases (AMMI) of Canada general meeting plenary lecture, Vancouver. (March 2008)

Contributions Details

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Todd F. Hatchette

INTERRUPTIONS AND DELAYS: None

PATENTS AND INTELLECTUAL PROPERTY RIGHTS: None

SELECTED PUBLICATIONS:

1. Kuster SP, Coleman BL, Raboud J, McNeil S, De Serres G, Gubbay J, **Hatchette T**, Katz KC, Loeb M, Low D, Mazzulli T, Simor A, McGeer AJ, for the Working Adult Influenza Cohort Study Group. Acute Care Hospital Workers and Risk of Influenza Infection during the 2009 H1N1 Influenza Pandemic. 2013 *Emerg Infect Dis* (in press)
2. Ratnam S, Kruk T, Lau A, **Hatchette T**, Preiksaitis J, Horsman G, Van Caesele P, Timmons B, Tipples GA. Continuous Monitoring of the Performance of Rubella IgG and Hepatitis B Surface Antibody Assays Using Reference Controls: Results of a Multicentre Trial 2012. *Clin Vaccine Immunol Aug 15*. [Epub ahead of print].
3. BinKhamis K, Mitchelmore BR, Slayter KL, **Hatchette TF**. Antimicrobial Stewardship and the Treatment of Travelers' Diarrhea: Is it Time to Re-think Recommendations. 2012 *Clinical Medicine Reviews in Therapeutic* :4 79–87
4. Webb AN, Langley RGB, **Hatchette T**. Question: Can you identify this condition? (Secondary Syphilis). 2012 *Can Fam Phys Physician*. 58(4):409.
5. Khaperskyy DA, **Hatchette TF**, McCormick C. Influenza A virus inhibits cytoplasmic stress granule formation. 2012 *FASEB J*. 26:1629-39.
6. LeBlanc JJ, Heinsteinst CR, **Hatchette TF** Homogenization with Heat Treatment: a Cost Effective Alternative to Nucleic Acid Extraction for Herpes Simplex Virus Real-Time PCR from Viral Swabs. 2012 *J Virol Methods* 179(1):261-4.
7. Ornstein A, Hatchette TF. Five Things to Know About HPV and Anogenital Warts (AGW) in Children. 2012 *CMAJ* 184(3):321.
8. Wilson SE, Deeks SL, **Hatchette TF**, Crowcroft NS. The role of sero-epidemiology in comprehensive vaccine preventable disease surveillance. 2012 *CMAJ*.;184(1):E70-6.
9. **Hatchette TF**, LeBlanc JJ. In the Wake of Pandemic H1N1; Questions Still Remain. 2011 *Can J Pathol* 3(2):3-5
10. Thorne Humphrey L, Goralski K, Slayter K, **Hatchette T**, Johnston L, McNeil S (The 2009 OPTIMO Study Group). Oseltamivir Pharmacokinetics in Morbid Obesity (OPTIMO Trial); 2011 *J of Antimicrob Chemother*; 66: 2083–2091
11. Gahagan JC, Fuller JL, Proctor-Simms EM, **Hatchette TF**, Schleichauf E, Baxter LN. Barriers to Gender-equitable HIV Testing: Going Beyond Routine Screening for Pregnant Women in Nova Scotia, Canada *International Journal of Equity in Health*. Int J Equity Health. 2011 May 11;10(1):18.
12. Webster D, Li Y, Bastien N, Garceau R, **Hatchette T**. Oseltamivir-resistant Pandemic H1N1 with Severe Illness in New Brunswick . 2011 *CMAJ* 201 183:E420-2.
13. **Hatchette TF**, Farina D. Infectious Diarrhea: An Approach for Front Line Clinicians. 2011 *CMAJ* 183:339-44.
14. Macdonald N, **Hatchette T**, Elkout L, Sarwal S. Mumps is Back: Why is Mumps Eradication Not Working? 2011. *Adv Exp Med Biol*.;697:197-220
15. Mattison K, Grudeski E, Auk B, Brassard J, Charest H, Dust K, Gubbay J, **Hatchette TF**, Houde A, Jean J, Jones T, BE, Mamiya H, McDonald R, Mykytczuk O, Pang X, Petrich A, Plante D, Ritchie G, Wong J, Booth TF. Performance assessment for norovirus real-time RT-PCR detection protocols. 2010 *J Clin Virol*. 50:109-13.
16. Leblanc JJ, Li Y, Bastien N, Forward KR, Davidson RJ, **Hatchette TF**. Switching gears for a pandemic: validation of a duplex RT-PCR for simultaneous detection and confirmation of the novel influenza A (H1N1) variant. 2009 *J Clin Microbiol*. 47:3805-13.
17. **Hatchette TF**, Mahony JB, Chong S, LeBlanc JJ. Difficulty with mumps diagnosis: what is the contribution of mumps mimickers? 2009. *J Clin Virol*. 46:381-3.
18. **Hatchette TF**, Davidson R, Clay S, Pettipas J, LeBlanc J, Sarwal S, Forward KR. Laboratory diagnosis of mumps in a partially immunized population: The Nova Scotia Experience. 2009 *Can J Infect Dis Med Microbiol* 20(4):e157-e162.
19. Schanzer DL, Garner MJ, **Hatchette TF**, Langley JM, Aziz S, Tam TWS. Estimating Sensitivity of Laboratory Testing for Influenza in Canada through Modelling. 2009 *PLoS One* 18;4(8):e6681
20. Cutler J, Schleichauf E, **Hatchette TF**, Billard B, Watson-Creed G, Davidson R, Li Y, Bastien N, Graham M,

- Tyler S, Sarwal S, for the Nova Scotia Human Swine Influenza Investigation Team The First Cases of Human To Human Transmission of A/H1N1 Human Swine Influenza In Canada. 2009. *CMAJ* 181:159-163
21. Mahony JB, **Hatchette T**, Ojkic D, Drews S, Gubbay J, Low D, Petric M, Tang P, Chong S, Luinstra K, Petrich A, Smieja M Multiplex PCR Tests Sentinel the Appearance of Pandemic Influenza Viruses Including H1N1 Swine Influenza. 2009 *J Clin Virol*. 45:200-202.
 22. **Hatchette TF**, and Members of the Pandemic Influenza Laboratory Preparedness Network (PILPN) Commentary: The Limitations of Point of Care testing for Pandemic Influenza: What Clinicians and Public Health Professionals Need to Know. 2009 *Can J Pub Health* 100:204-207.
 23. LeBlanc JJ, Pettipas J, Davidson RJ, Tipples GA, Hiebert J, **Hatchette TF**. Detection of Mumps RNA by Real-Time One-Step Reverse-Transcriptase PCR (RT-PCR) on the LightCycler Platform 2008 *J Clin Microbiol*. 46:4049-51.
 24. Marrie TJ, Campbell N, McNeil SA, Webster D, **Hatchette TF**. Q fever update, Maritime Canada. *Emerg Infect Dis* 2008 14: 67-69.
 25. **Hatchette TF**. Herpes Simplex Virus Type Specific Serology: Where does it fit in the diagnostic armamentarium? 2007. *Can J Infect Dis Med Microbiol* 18:225-227.
 26. Hughes K, Zachertowska A, Wan S, Li L, Klimaszewski D, Euloth M, **Hatchette TF** . Yield increases in intact influenza vaccine virus from chicken allantoic fluid through isolation from insoluble allantoic debris. *Vaccine*. 2007 25(22):4456-63.
 27. Watson-Creed G, Saunders A, Scott J, Lowe L, Pettipas J, **Hatchette TF**. Two successive outbreaks of mumps in Nova Scotia among vaccinated adolescents and young adults. *CMAJ* 2006 175:483-488.
 28. **Hatchette TF**, Walker D, Johnson C, Baker A, Pryor SP, Webster RG. Influenza A viruses in feral Canadian ducks: extensive reassortment in nature. *J.of Gen. Virol* 2004; 85:2327-2337