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# CATTARAUGUS COUNTY BOARD OF HEALTH

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## MINUTES

February 8, 2012

The 802<sup>nd</sup> meeting of the Cattaraugus County Board of Health was held at St. Bonaventure Clubhouse Route 417, Allegany, New York on February 8, 2012.

The following members were present:

Andrew Klaczynski, MD

Joseph Bohan MD

Giles Hamlin, MD

Joseph Eade

Sondra Fox, RN

Richard Haberer

James Lapey

James Snyder

Also present were:

Kevin D. Watkins, MD, MPH, Public Health Director

Kathleen Ellis, Administrative Officer

Karen Manners, Secretary to Public Health Director

Thomas Brady, County Attorney

Paula Stockman, County Legislator

Donna Vickman, County Legislator

Linda Edstrom, County Legislator

Howard VanRensselear, County Legislator

Gilbert Witte, MD, Medical Director

Eric Wohlers, Director of Environmental Health

Raymond Jordan, Sr. Sanitarian

Susan Andrews, Director of Patient Services

David Porter, Hearing Officer

CH2M HILL B&W West Valley, LLC

Dan Coyne, Acting President and General Manager

John Rendall, Manager, Regulatory Strategy

Peggy Loop, Manager, Waste Process, Packaging and Transportation

Lynette Bennett, Manager, Communications and Public Affairs

The meeting was called to order by Dr. Klaczynski. The roll was called and a quorum declared. Mr. Eade made a motion to approve the minutes of the December 7, 2011 Board of Health meeting and the minutes of the December 7, 2011 Professional Advisory meeting. It was seconded by Mrs. Fox and unanimously approved.

Dr. Watkins introduced guests from CH2M HILL and Babcock & Wilcox West Valley, LLC (CHBWV). They have received a \$330 million contract award through the U.S. Department of Energy to remove high level radio active material that is on site at the West Valley Demonstration Project. Dr. Watkins asked that they concentrate their presentation today on the human health impacts to the public and employees, the environmental impacts and the volume of waste generated, including "orphan" waste and the transportation impacts.

Mr. Dan Coyne stated that CHBWV is CH2M HILL, which is a rather large Architecture/Engineering (A/E) firm that does nuclear and environmental work and Babcock & Wilcox (B&W) is one of the foremost experts in the nuclear field and the third partner is Environmental Chemical Corporation (ECC). The 6½ year contract for \$330 million includes four main milestones which are:

- 1) to build and move the vitrified glass logs to an interim storage facility
- 2) to ship legacy waste off site
- 3) to demolish the main plant building where fuel was processed in the late 60's and early 70's
- 4) to demolish approximately 60 additional buildings and remove the waste off site.

Mr. Coyne went on to say that some people may ask what will be left after the 6½ year contract is up at the West Valley site. Primarily it will be the tank farms, the low level waste treatment facility, the interim high level waste storage facility that is being built that will store the glass logs until a repository has been determined for them, and a couple other ancillary structures including the NRC-Licensed Disposal Area (NDA) and the State Licensed Disposal Area (SDA) landfills.

There are currently 280 people working at West Valley now and approximately 270 are individuals that were there last year at this time.

So far, 16,000 cubic feet of legacy low level waste has been disposed of and there is a lot more to go. They are getting rid of a number of systems that are inside the buildings and protecting workers and the environment is a priority while accomplishing this task. People who have been trained by NYS on how to remove asbestos are also removing a couple of linear miles of asbestos which is heavily monitored.

The West Valley Project's mission after they stopped processing fuel was to take the waste from those waste tank farms, vitrify it and turn it into a glass solid; 275 of those containers are at the main plant. They will put the containers into a Nuclear Regulatory Commission (NRC) container and then put them into interim storage until they can be transported to an approved location. After that is done, the main plant can be torn down. Approximately 10 facilities will be torn down at the site this year.

Mr. Rendall stated that the large stakeholders of this project are the Environmental Protection Agency (EPA), New York State Department of Environmental Conservation (DEC) and NRC but at the local level the Cattaraugus County Health Department is a key stakeholder. As the Regulatory Manager, his focus is on the protection of the workers, people that are on the site and the protection of the public. Real time monitoring for radioactive exposure is done for the workers. Environmental monitoring is done both on and off site. Approximately 8,000 samples a year are collected across

all media; ground water, drinking water, surface water, air, soil, sediment, fish, milk, fruit, vegetables, etc. The West Valley project has done this monitoring for years. The off site samples have all been within normal levels. The typical person across the country receives approximately 660 millirems (mrems) per year. The actual level measured at West Valley Demonstration Project was .02 mrems per year or .0002% of the standard. CHBWV will put an ambient air monitoring program in place that will measure the air quality at 16 stations for the next two years.

Mr. Rendall stated that in October, after monitoring had begun in July for mercury, they found that they were over the permissible exposure limits and immediately shut down the wastewater discharge system and went into recirculation mode which is still being investigated. It was determined that the mercury was associated with rinsing out vials in the analytical laboratory in a solution which is used in the analysis of ammonia and it was being poured down the drain, not the actual reagent itself just whatever was left in the vial, so you can get an idea of how little mercury it takes to have an impact. This procedure has been dropped and we are in the process of bringing the system up to discharging again which will probably be in the next week or two.

Mr. Coyne said that the site has a known Strontium-90 plume which was from the main plant back in the 60's. A permeable treatment wall was put in about a year and a half ago which is a zeolite compound. There are 86 sample wells upstream and downstream of the wall and we are getting good results that show that the permeable treatment wall is very effective. The zeolite solution strips the Strontium-90 out of the ground water and holds it in there and it seems to be working quite well.

Mr. Coyne summarized by saying that they are very protective of the workers. If you are taking care of the health of the workers and not having any releases in the work zone, typically there will not be any releases into the public. For over 4½ million man hours, most of them being through the previous contractor, there has been no lost time due to injury. We have not had a reportable injury or incident since we have been there and are proud of our safety and environmental records.

Dr. Klaczynski asked how long the clean up will take and where the waste will be shipped? Mr. Coyne stated that it will be just over six years, but may be closer to 7 years for all of the buildings to be torn down. After that, the plan is to go after the tank farms and other high level radioactive material and that could take up to 20 years. To answer where the waste is going, the low level waste is typically going to Envirocare in Utah or Nevada test sites. If we ever get permission to ship transuranic waste, it will go to Carlsbad, New Mexico and will get shipped over the road by trucks.

There was a question as to what the life span is of the interim storage facility? Mr. Coyne stated that he believes the certificate of compliance is 50 years. It is a big problem in America at all of the nuclear sites because there is nowhere to ship this fuel. Those cylinders are each 10 ft. tall by approximately 3 ft. in diameter, and will then be placed into a multi-purpose container (MPC) which holds about five cylinders that would be welded into the MPC. This is where this waste will stay until a home for it is decided upon.

Dr. Bohan asked about the chance for contamination when the buildings are being destroyed because of rain, snow or wind blowing dust around. Mr. Coyne stated that a fixative is used which keeps the fugitive dust to a minimum. If there is a hot spot, it is taken care of before the rest of the building is knocked down. Mr. Coyne also stated that every job is different; 2.2 million sq. ft. of contaminated

buildings were torn down in Idaho and 3.6 million sq. ft. at a Denver site, which was really close to suburban populations with no off site release. It is a very slow and cautious process.

Mr. Brady asked Mr. Coyne if he can give us a better definition and understanding of the term "plume." Mr. Coyne stated that back in the 60's there was a leak in one of the cells at the plant that leaked between the construction joints of the building and created an unacceptable level of Strontium-90 in the ground water. The plant operated for six years from 1966-1972 and as environmental technologies got better more analysis was done and the Strontium-90 plume was discovered in the 80's or 90's. Mr. Brady asked about the half-life of Strontium-90 and Ms. Loop stated that it is 35 years. Mr. Rendall stated that if anyone would like more details, the annual environmental site report has a lot more data and it is posted on the website. The concentrations are actually quite low, and dissipates rather quickly as you go towards Cattaraugus Creek. Dr. Witte stated that the half life of Strontium-90 is 28.8 years.

There was a question regarding long term funding. Mr. Coyne stated that the source of funding is annual appropriations through the Department of Energy. It is a year by year process to secure the funding, therefore \$60 million a year is not guaranteed to be long term.

Dr. Klaczynski thanked all of the guests for their excellent presentations. Mr. Coyne said they were happy to be here and would gladly give a tour of the West Valley facility if anyone was interested.

**Director's Report:** Dr. Watkins reported that last week he attended a State conference in Albany to learn about the new impacts expected for the Department of Health. The Governor's 2012 budget appears to leave the Department with no new significant changes as it relates to budget cuts. The biggest change that was discussed as it relates to the Department of Health is in the Early Intervention Program. Most of the billing for the contracted providers, Speech, Occupational and Physical Therapists, will be taken over by the New York State Department of Health. We will do the Service Coordination and Child Find for the program. This is excellent for the county itself because it will reduce the subsidies that the county will have to pay for Medicaid reimbursement, however, where there is a limitation on the number of providers that we have in the area, it may create a huge problem for the Early Intervention Program as reimbursement to providers may be late and inconsistent, leading to dissatisfaction and eventually discontinuation of services.

It was reported at the last Board of Health meeting that we were informed that an emergency regulation to lift the Certified Home Health Agency moratorium was provided to the State Public Health and Health Planning Council (PHHPC). This committee oversees regulations and legislation and has approved lifting the moratorium. Requests for applications for certificate of need for certified home health care programs are now posted on the State's website. If certifications are allowed for local licensed health agencies, it may have a negative impact on our projected home care revenue for 2012. There is no unmet need in our area and we feel this would lead to a duplication of services and competition of the same patient population. Legislators will present this in a strategic planning committee meeting.

Dr. Watkins also reported that the State will be here to conduct a consolidated review of all of programs within the Health Department beginning March 15-23. The programs that they will review are the Children with Special Health Care Needs, Family Planning, Lead Poisoning Prevention,



Immunization, HIV, STD, Communicable Disease, Tuberculosis (TB), and Environmental Health (both the water supply protection and the food protection program). Program managers are working to be sure that our policies and procedures are up to date.

A State law went into effect beginning February 1, 2012 which requires that open meeting records be available to the public. The Board of Health agenda and minutes will now be posted on the Health Department website. Mr. Brady stated that if members of the public attend this meeting and want to see the same documents that are available to the Board members, upon reasonable notice they have a right to that information and making it available on the website is probably the easiest way to comply.

The Empire Housing, Inc. was recently awarded a \$1,000 grant by the Walmart Foundation to help supplement the Health Department's dental health education materials to celebrate dental health month in February. Our Health Education division discovered that some of our residents and children within Cattaraugus County do not have toothbrushes, have to share toothbrushes or are using toothbrushes that have lost their effectiveness. The Health Educator that conducts the school dental programs often runs out of supplies, so the award will help purchase an abundance of toothbrushes and toothpaste that will be distributed to children throughout the county.

McCarthy & Conlin, the auditors who complete the Medicaid and Medicare cost reports have suggested that the Health Department needs to increase the current fee for Physical Therapy services from \$96/visit to \$110/visit effective January 1, 2012. Mr. Lapey made a motion to increase the Physical Therapy fee; it was seconded by Mr. Haberer and unanimously approved.

The Health Department currently has a Telehealth service operated by our Certified Home Health Agency, which is a remote health monitoring system that allows our staff to monitor a patient's health status without making a visit to their home. This service helps to reduce readmissions to the hospital and emergency room. The monitoring unit is installed and a connection with the Health Department's computer system is established. The patient's weight, blood pressure, pulse and even oxygen saturation is recorded and the nurses can respond with effective interventions. We would like to offer this service to other agencies within our community because all 35 units are generally not deployed. We would provide the service for agencies such as Program of All-Inclusive Care for the Elderly (PACE) and would charge them \$125 for installation and \$15/day for monitoring.

There is another service called the Personal Emergency Response System (PERS). Patients wear this device on their person and if they have complications at home they can push a button on a pendant for assistance. We use this system for our patients and in the past have contracted through VNA Homecare Services and now will be contracting through Doyle Security Systems. We have been approached by Blue Cross/Blue Shield who has asked us to contract with them to install and monitor these devices on their managed care patients. For installation we would charge \$33 and monitoring we would charge \$30/month.

Dr. Bohan made a motion to approve the proposals to provide services for the Telehealth units and the PERS units; it was seconded by Mr. Eade and unanimously approved.

Dr. Watkins stated that recently in the news there has been investigation of neurological tic symptoms among students at the LeRoy Jr./Sr. High School in Genesee County. He handed out a report from the New York State Department of Health (NYSDOH) regarding this investigation (attached). It summarizes what has occurred, what they found and answers questions regarding this kind of an outbreak. The investigation proved to have found no environmental factors to cause the symptoms and they are contributing these symptoms to a psychological conversion disorder and due to the community's skepticism about the conclusions of this report, there are investigations that are ongoing by independent environmental teams.

**Nursing Division Report:** Mrs. Andrews reported that two nurses are completing their orientation; one is a nurse from the Pines Nursing Home and the other has previous home care experience.

We are preparing for the consolidated review by NYSDOH in March. This will include epidemiology, communicable disease, immunization, lead, TB and family planning. Communicable disease reports include ten cases of Chlamydia, one Giardia, one Bacterial Meningitis and two invasive strep. Statewide there have been a number of diarrheal disease cases, many in long term care facilities. We are continuing our surveys with Olean General Hospital Emergency Room. Twenty Yellow Fever immunizations have been given to travelers and there is still Tdap vaccine that will expire later this month, if anyone is interested in receiving a vaccination we have reduced the fee to \$8.00.

Two contracted nurse practitioners will be covering for Julie McAndrew, the current Nurse Practitioner who is retiring until a permanent replacement is hired. Also, one of the Registered Nurses will be assisting with pap smear follow up.

Mrs. Andrews stated that last month, along with Patti Williams (Supervising Community Health Nurse) and Tara Leonard (Reproductive Health Educator), she met with Franklinville School, hopefully to be able to offer programs there, where historically we have not.

There have been no new confirmed elevated lead cases in January and we continue to follow up on six children.

Home Care census is approximately 400 patients and we continue to strategize about what we can do for the future in case our revenue is impacted by the State allowing home health agencies to become certified. We are sending two individuals to be trained to become transition coaches. We are doing this with the Department of Aging and Olean General Hospital through a Center for Medicare and Medicaid Services (CMS) funded grant. The point of having transition coaches is to prevent hospital readmissions.

**Environmental Health Division:** Mr. Wohlers stated that he was glad to see that representatives from CHBWW could come to the meeting today to do a presentation on the West Valley Demonstration Project. He has served on the West Valley Citizen's Task Force (CTF) and attended monthly meetings since it was formed 13 years ago after the Environmental Impact statement was released. The legislative chairman receives all monthly meeting notices and when there have been important milestones Mr. Wohlers would report it to the Board of Health and County Legislature.

Before the CTF was formed, the site managers contacted the Health Department and met with us to explain an air release of a Cesium-137 plume that occurred, but everything was always made public. The neighbors were contacted and environmental monitoring showed that it was just barely above background levels. Most people are aware of the ground water plume; of course it has been a part of the Environmental Impact Statement (EIS) and the recent record of decision and the phased approach to how they are proceeding with the clean up.

The Environmental Health staff member has moved from Machias to Little Valley so we no longer have a satellite office in the northeastern part of the county, which will require more travel time. We have had to make quite a few adjustments with the elimination of one of our sanitarian positions because of the budget reduction.

Mr. Wohlers also reported that they have spent a lot of time on the Revised Draft Generic Supplemental Environmental Impact Statement for gas drilling and high volume hydraulic fracturing process. The State Environmental Health Directors are currently collaborating with the New York State Association of County Health Officials (NYSACHO) to make a presentation to the Governor's Advisory panel. All of that information was submitted to the Department of Environmental Conservation (DEC) by January 11, 2012. They have postponed the presentation twice but we are hoping to meet with DEC and express the needs of all county health departments once they start issuing permits and the gas drilling begins in New York State.

Mr. Wohlers stated that with the elimination of the two summer aide positions, it is the first time in over 20 years that we will not conduct mosquito surveillance activities this summer.

Mr. Wohlers said that the State Health Department revised the regulations on summer children's camps. We usually permit and inspect 20-30 summer camps that are either for scouting or religious organizations. The revised regulations state that even the local community recreation programs that have day camps where kids just go and play sports for a day are now going to be regulated. We think there are at least four that will have to be permitted and inspected by the Health Department. They are the Town of Allegany summer youth recreation program, the Gowanda program, the Yorkshire-Delevan program and the Freedom program and we have notified them that they are going to have to apply for permits this year and submit safety plans.

Mr. Porter reported the following enforcement cases for Board action:

**DOCKET 11-061**

**JEROME & HELEN SMITH, 11297 Brown School House Road**

**Violations: CCSC, Article II, Section 16.6.1** A dye test was performed on the sewage disposal system on 4/25/11. Inadequately treated sewage was found discharging onto the surface of the ground. A compliance date of 6/6/11 was set and the violation has not been corrected to date. Notice of Hearing offering a \$75 civil compromise was mailed 12/20/11. It was received and signed for by Jerome Smith on 12/23/11.

Jerome Smith passed away on 1/8/12. Mr. Jordan spoke with Jerome Smith Jr. on 1/19/12 and agreed to have the violation corrected by 5/15/12. He will keep Mr. Jordan informed of any new developments. Hearing Officer recommended that this case be left open until the June Board of Health meeting.

**DOCKET 11-061**

Mr. Snyder made a motion to accept the Hearing Officer's recommendation; it was seconded by Mr. Haberer and unanimously approved.

Board Ordered: Case to remain open to be sure respondent is in compliance by the June Board of Health meeting.

**DOCKET 11-062****OLEAN-BRADFORD AREA, YMCA FOUNDATION, INC., 1101 Wayne Street, Olean**

**Violations: 10NYCRR, Part 6, Section 6-1.4(b)(1)** On 12/15/2011 during an inspection of the swimming pool facility at the Olean family YMCA, the respondent failed to provide adequate bather supervision as required in Section 6-1.23 of 10NYCRR. Notice of Hearing with no stipulation offered was mailed 12/20/11. It was received and signed for by Brenda L. West on 12/21/11.

**Administrative Hearing:**

Sanitarian: Eli Rust and Raymond Jordan, Sr. Sanitarian, appeared for CCHD and were sworn.

Respondent: Brian Perkins, Aquatics Director for the YMCA and Aaron Donahue, YMCA personnel, appeared at hearing.

Enf. 1 was read and affirmed to be correct by Mr. Rust and identified as People's Exhibit #1.

Facts and documentation supplied by CCHD during the hearing are as follows:

- a) A civil compromise was not offered to the YMCA to force the Respondent to appear.
- b) Inspection reports dated 12/15/11 and 12/19/11, identified as Peo. Ex. #2a and 2b, indicate major violations still present. (failure to provide adequate bather supervision)
- c) A letter received by CCHD from Brian Perkins, YMCA Aquatics Director, on 6/1/11 and marked as Peo. Ex. #3, proposed a solution to provide adequate bather supervision. CCHD officials deemed this proposal ineffective by their visit on 12/19/11.
- d) A letter marked as Peo. Ex. #4 from CCHD to Mr. Perkins is a reply to his 6/1/11 letter.

Hearing was then turned into an open forum discussion on how the YMCA is going to be in compliance with adequate bather supervision. Sanitary code states that it is a violation to operate a swimming pool over 3400 sq. ft. with one life guard. Olean-Bradford area YMCA swimming pool is 4300 sq. ft.

A meeting to finalize a solution to this violation was held on 1/24/12 at the YMCA. The proposed solution from the Respondent is per the attached memo dated 1/24/12 from Mr. Rust. The proposal was accepted by CCHD as it is easily verifiable and meets the intention of the sanitary code.

Hearing Officer Finding: The Respondent is in violation of 10NYCRR Section 6-1.4(b)(1) – failure to provide adequate bather supervision.

Recommendation: The plan and equipment are to be in place and ready for inspection on or before 2/28/12.

Mr. Eade made a motion to accept the Hearing Officer's recommendation; it was seconded by Mr. Haberer and unanimously approved.



**DOCKET 11-062 (continued)**

Board Ordered: The plan and equipment to be in place and ready for inspection by CCHD on or before 2/28/12.

**DOCKET 11-063****SCOTT VAUGHN, 4870 Hardscrabble Road, Hinsdale**

**Violations: CCSC, Section 25.2.8** Respondent failed to submit the confinement verification form and proof of current rabies vaccination for his dog following the required confinement period for a biting incident involving his dog which reportedly occurred on 9/29/11. Notice of Hearing offering a \$75 civil compromise was mailed. It was received on 12/23/11 but signature is not legible.

**Administrative Hearing:**

Sanitarian: Eli Rust appeared for CCHD and was sworn.

Respondent: Failed to appear at hearing.

Enf. 1 was read and affirmed to be correct by Mr. Rust and identified as People's Exhibit #1. Animal bite report from Olean General Hospital identified as Peo. Ex. #2 showing that dog owner was bitten. Confinement letter dated 10/3/11 was hand delivered to Scott Vaughn by Mr. Rust and marked as Peo. Ex. #3. Letter dated 12/6/11 was sent to Scott Vaughn stating that proof of confinement and proof of rabies vaccination have not been received by CCHD. Compliance date of 12/16/11 was given.

Hearing Officer Finding: The Respondent is in violation of Section 25.2.8 of the Sanitary Code of the Cattaraugus County Health District – failure to provide proof of confinement and rabies vaccination after a dog bite incident.

Recommendation: That the \$75 civil compromise is changed to a \$150 fine to be received by CCHD on or before 2/28/11 with a \$10 per diem fine if the fine is not paid by that date.

Mr. Eade made a motion to accept the Hearing Officer's recommendation; it was seconded by Dr. Hamlin and unanimously approved.

Board Ordered: \$150 fine to be received by CCHD on or before 2/28/11 with a \$10 per diem fine if the fine is not paid by that date.

Mr. Lapey reported that the nominating committee is recommending Dr. Andrew Klaczynski as President and Dr. Joseph Bohan as Vice-President of the Board of Health for 2012. Mr. Eade made a motion to close the nominations and elect Dr. Klaczynski as President and Dr. Bohan as Vice-President to the Board of Health for 2012. It was seconded by Mr. Lapey and unanimously approved.

Mr. Lapey announced to the Board that Salamanca was selected as a Mentor community to work on sustainable community health initiatives through the Action Communities for Health, Innovation and EnVironmental change (ACHIEVE) program that began in Salamanca in 2008. They have been partnered with Colby, Kansas to provide local leaders with education and resources to solve specific health problems. This site is one of 15 newly selected communities in 17 states that will develop and implement local activities focused on preventing chronic disease by raising public awareness about

the harmful effects of tobacco use and exposure, poor nutrition and physical inactivity. Mr. Lapey stated that we should be proud that the ACHIEVE group has attained such national recognition.

There being no further business to discuss, Mr. Eade made a motion to adjourn. It was seconded by Mr. Haberer and carried to adjourn.

Respectfully submitted,

A handwritten signature in cursive script that reads "Kevin D. Watkins, M.D.".

Kevin D. Watkins, M.D., M.P.H.  
Secretary

KDW/km

**Investigation of Neurologic Symptoms among Le Roy Jr/Sr High School Students,  
October 2011 – January 2012  
Interim Report  
January 31, 2012**

**Summary**

This report summarizes an on-going investigation (as of January 31, 2012) of neurologic tic symptoms in 12 female students at Le Roy Jr/Sr High School in Le Roy, New York (Genesee County) during October 2011 to January 2012.

Tics are repeated involuntary twitches, movements, or sounds. Isolated and transient tics are common among children, affecting up to 20% of the school-age population.

A collaborative investigation by New York State Department of Health (NYSDOH), New York State Office of Mental Health (NYSOMH), Genesee County Health Department (GCHD), Le Roy Central School District (LRCS), and its medical contractor, Work Fit Medical (WFM), found no infectious or environmental etiologies.

Eight of the twelve students were diagnosed with conversion disorder and have been evaluated by a pediatric neurologist. Three students had illness associated with tic symptoms predating their attendance at the school.

In an effort to obtain best-in-nation evaluation and care for impacted students, NYSDOH has secured an agreement from the National Institutes of Health (NIH) to provide each student with a no-cost specialized medical consultation.

On January 11, 2012, Le Roy Jr/Sr High School hosted a public meeting, which included NYSDOH and NYSOMH officials, to share the results of the investigation and address questions from the community. The primary findings were that there were no infectious or environmental public health concerns related to this cluster of students.

While preparing this report, NYSDOH learned of three additional students with possible tic symptoms; they are currently under investigation.

**Introduction**

On October 21, 2011, the NYSDOH Western Regional Office (WRO) was notified by the GCHD that eight Le Roy Jr/Sr High School students had recently developed neurologic tic symptoms. WRO staff reached out to multiple programs within the NYSDOH including chronic disease, environmental health, and communicable disease for their expertise and guidance related to the information received. In addition, WRO staff reached out to LRCS health staff for additional information on the students. A conference call was held on Friday, November 4, 2011 between NYSDOH, GCHD, LRCS, WFM, and the New York State Education Department (NYSED) to review the situation and determine next steps. Subsequent to the call, NYSDOH WRO learned that four additional students

developed tic symptoms in December 2011. Medical diagnoses, epidemiologic, clinical, and environmental factors were reviewed to determine if there was a possible infectious or environmental cause of the tic symptoms.

### **School Description**

Le Roy Jr/Sr High School, a combined building, is located at 9300 South Street in Le Roy, New York. The school was first occupied in 2003 and is 129,190 square feet in size. The construction type is primarily slab on grade masonry construction. The boiler room and auditorium are partially below grade. It is served by municipal water and sewer. There are 32 teaching classrooms and the student population is approximately 630.

### **Medical Evaluation**

All 12 students were evaluated by Work Fit Medical and eight of the 12 were evaluated by DENT Neurologic Institute.

### **Epidemiologic Methods**

Le Roy Jr/Sr High School obtained parental consents allowing WFM to review individual patient medical records and interview the affected students and families. Information such as, past medical history, family medical history, significant life stressors, past and current medications, recent illness, drug use and laboratory testing was collected during the interviews and medical record review. Possible common exposures were evaluated (where they live, work, volunteer, play sports, etc.). In addition, WFM consulted with the treating pediatric neurologist who evaluated eight of the 12 cases as of the date of this report.

### **Environmental Methods**

NYSDOH staff provided WFM with questions to be incorporated in the student interviews. NYSDOH staff conducted a literature search to explore possible associations between environmental chemical exposures and development of neurologic tics. Data on the water quality testing conducted by the Monroe County Water Authority (MCWA), including public water provided to the school from MCWA, are reviewed routinely by the GCHD. NYSDOH consulted with the United States Environmental Protection Agency (EPA) regarding the Lehigh Valley Railroad Derailment Superfund Site and reviewed information pertaining to the Lapp Insulator and Target Products Sites to determine the potential for spread of contamination to the school campus. At the request of LRCSD, in December 2011, the Genesee Valley Educational Partnership Office of Health-Safety-Risk Management Services (BOCES) conducted an evaluation of indoor air quality and mold within the Le Roy Jr/Sr High School building. GCHD, working collaboratively with BOCES, collected additional water quality samples from the school on January 25, 2012.

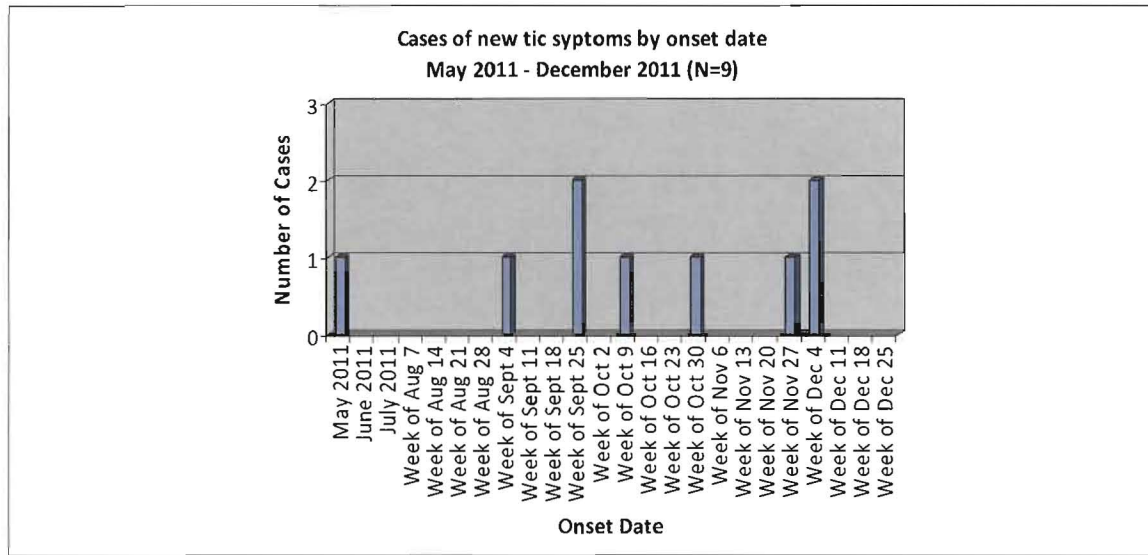
### **Epidemiologic Results**

Between October and December 2011, NYSDOH received reports of twelve students with tic symptoms from LRCSD and WFM. The cases ranged in age from 13 to 19 years.



All cases were female. Three of the 12 cases were identified as having pre-existing medical conditions associated with tic disorders. Two of the three cases, who were tic free for a period of time, experienced an exacerbation of tic symptoms during this time period. The third case was identified as having a previous diagnosis of Tourette's disorder and did not have a new onset of tic symptoms, but rather an acceleration of on-going tics during this time period. Onsets of tic symptoms ranged from May 2011 to December 2011 for the nine new onsets (Figure 1).

Figure 1 – Epidemiologic curve of outbreak



Interviews of the 12 cases did not reveal any common exposures or evidence of an infectious etiology. The cases are in different grade levels (1-8<sup>th</sup>; 1-9<sup>th</sup>; 3-10<sup>th</sup>; 3-11<sup>th</sup>; 4-12<sup>th</sup>). No common in-school or after school activities among the entire group were identified. Four participated in cheerleading and two participated in soccer. Medical testing and screening failed to identify a definitive somatic diagnosis. Antistreptolysin O (ASO) titers were ordered on six of the cases. Four were elevated above the normal range and two were normal. Drug use was ruled out based on interviews with all the cases, and toxicology screens on seven of the cases. Five were negative and two were positive for medication the cases were previously prescribed. Heavy metal testing was ordered on five cases and all were negative. According to the New York State Immunization Information System (NYSIIS), seven of the cases received Gardasil, human papillomavirus (HPV) vaccine. Five cases received the recommended three doses while two cases received two of three doses. Six of seven cases who received Gardasil had onset of tic symptoms greater than one year after their last dose of vaccine. One case received her third dose after her tic symptom onset (Table 1). No temporal relationship between vaccine administration and symptom onset was identified. A post-licensure safety study of HPV vaccine among 189,629 females completed by an independent safety team of experts, identified no association between vaccination with Gardasil and neurologic disorders (1).

Table 1.

Case	# of Gardisil Doses	Date of last dose	Onset of Symptoms	Time from last dose to onset
1	3	2008	2011	3 yrs, 4 mos
2	3	2010	2011	1 yr, 6 mos
3	3	2008	2011	3 yrs, 4 mos
4	3	2011	2011	Onset prior to last dose
5	3	2010	2011	1 yr, 5 mos
6	2	2008	2011	3 yrs
7	2	2007	2011	4 yrs, 4 mos

Significant life stressors were identified in 11 of the cases. Eight of the cases were diagnosed as conversion disorder by the primary treating physicians and pediatric neurologist; three cases had preceding medical illness associated with tics, and one case did not seek medical attention.

### Environmental Results

Interviews of the 12 cases did not reveal any common environmental exposures, other than attendance at the same school. The occurrence of symptoms in only female students and the range of time of symptom onset are not consistent with an environmental cause.

A comprehensive search of the biomedical and life sciences literature using the National Library of Medicine database found a single case report of a 5-year-old Chinese boy who developed transient tics after using large amounts of a mercury-containing herbal mouth spray and a single case report of a 12-year-old Turkish boy who developed transient tics after carbon monoxide poisoning. Additional searches failed to identify other articles demonstrating associations between environmental chemical exposures, including trichloroethene (TCE), and the development of neurologic tics.

Water quality provided by the MCWA is in compliance with current state and federal drinking water standards. NYSDOH analyzed three drinking water samples taken on January 25, 2012 by GCHD from Le Roy Jr/Sr High School. Two samples were taken from within the campus (a student science laboratory and cafeteria kitchen). The third sample was taken where public water enters the building and is representative of water quality in the distribution system that supplies the school and the surrounding area. The analyses of these samples were completed on January 30, 2012.

The results show nothing out of the ordinary. All three samples meet state and federal drinking water standards. The water quality in the school was no different from the water quality in the community. In addition, all three samples were consistent with the normally expected water quality for the entire MCWA service area. The only chemical detections to note were disinfection by-products, the earth metal barium, and fluoride.

All of these detected chemicals were at levels well below drinking water standards. The disinfection by-products were found at levels consistent with the entire MCWA service area. Disinfection by-products occur at all drinking water systems that chlorinate surface water and result from the reaction of the primary disinfectant (chlorine) with naturally occurring organic material found in all surface waters of the State. The detected barium comes from Lake Ontario and is consistent with the level normally present in MCWA's water. Fluoride is added by MCWA for dental protection purposes and the level detected is MCWA's optimal target level for fluoride. The detected chemical levels are shown in Table 2.

The laboratory analyses looked for 58 volatile organic chemicals (including TCE), 63 separate pesticides and herbicides, 11 metals, cyanide, polychlorinated biphenyl's (PCBs) and ketones.

Table 2. Disinfection by-products, Barium, and Fluoride Levels

Detected Chemical	Range of Levels Detected	Maximum Contaminant Level
Disinfection Byproducts: (DBP)		
Chloroform	27 - 28 (ug/L or ppb)	N/A
Bromodichloromethane	10 - 10 (ug/L or ppb)	N/A
Dibromochloromethane	2.8 - 2.8 (ug/L or ppb)	N/A
Total DBP	39.8 - 40.8 (ug/L or ppb)	80 (ug/L or ppb)
Barium	0.018 - 0.019 (mg/L or ppm)	2 (mg/L or ppm)
Fluoride	0.7 - 0.7 (mg/L or ppm))	2.2 (mg/L or ppm)
Key		
ug/l=micrograms per liter; mg/l=milligrams per liter; ppm=parts per million; ppb=parts per billion		

The Lehigh Valley Railroad Derailment Superfund Site, the Lapp Insulator Site and Target Products Site do not represent a source of contamination or exposure for the school property for the following reasons:

- According to EPA records, the Lehigh Valley Railroad Derailment Superfund Site is located approximately 3.5 miles east of the school. Contamination is limited to the site of the spill and areas to the east.
- Water in an adjacent dolomite quarry has very low level of TCE (median value of five micrograms per liter, which is NYS drinking water standard for TCE). School officials reported that crushed stone from the quarry was used at the school in a road construction project and for subsurface drainage at a playing field. Residual TCE that might be present in stone from the quarry would be reduced or eliminated through evaporation during stone crushing and handling operations.



- The Lapp Insulator Site, located near Oatka Creek, is approximately 4700 feet west of the school, and has been evaluated in the past. Private drinking water wells near the site were tested and it has been established by New York State Department of Environmental Conservation (NYSDEC) that the site is not contaminating drinking water wells. Surface water and sediment in the Oatka Creek are not contaminated at levels of concern.
- Chemicals associated with the Target Products Site have not been detected in nearby groundwater monitoring wells.

The reports prepared by BOCES specific to indoor air quality and mold within the Le Roy Jr/Sr High School building identified no environmental concerns (Attachments I & II).

### **Discussion**

Twelve cases of tic-like behaviors were identified among Le Roy Jr/Sr High School students with onsets or recurrence/exacerbation over a seven month period. Two of the cases had preceding illnesses associated with tics and one case has a pre-existing Tourette's diagnosis.

The wide dispersion of cases over time, lack of affected faculty/staff, and the involvement of only female students argue heavily against a common environmental or infectious source for the cases.

Review of clinical history, medical diagnoses, epidemiologic and environmental exposure information on the cases, as well as information from environmental assessments and case interviews revealed no common infectious etiology or environmental exposure.

The American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR) is used by health professionals to help diagnose tic disorders. Tics are repeated involuntary twitches, movements, or sounds. Four tic disorders described in the DSM-IV-TR are differentiated by the type of tic present and duration of symptoms. These include Tourette's disorder, chronic motor or vocal tic disorder, transient tic disorder, and tic disorder not otherwise specified (2). Isolated and transient tics are common among children, affecting up to 20 % of the school-age population (3).

The clinical diagnosis for the eight cases seen by the pediatric neurologist was conversion disorder. These eight cases all had significant life stressors, a common factor with conversion disorder. Conversion disorder is a separate DSM category and is characterized by physical symptoms without an identified cause other than psychological stress (4). Tic-like symptoms may be a sign of conversion disorder. Conversion disorder is more prevalent in females. Symptoms can be severe (4,5).



The term Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococci, commonly referred to as PANDAS, has been used for a group of neuro-psychiatric disorders that are proposed to have an autoimmune basis and to be related to infection with group A beta-hemolytic streptococci (GAS) (6). PANDAS as the cause of tic symptoms in this cluster has been considered and rejected by medical professionals. The diagnosis of PANDAS is a clinical diagnosis in which five diagnostic criteria must be met (7). None of the cases meet the PANDAS criteria. In addition, the ASO titer elevations found on the four cases were not significant (>400 IU/ML) enough to meet diagnostic criteria as per consultation with NIH (8). In most studies, there was no association between levels of ASO titers and clinical symptoms (9). Leckman et.al found no evidence for a temporal association between GAS and tic symptom exacerbations in children who meet the published PANDAS diagnostic criteria (10).

Based on the treating physicians' diagnoses of conversion disorder and the epidemiologic and environmental investigation, it was concluded that the cases did not have common infectious or environmental causes.

The healthcare providers and public health agencies involved in this investigation consider this cluster of cases to be the result of conversion disorder/mass psychogenic illness. Mass psychogenic illness has been defined as a group of symptoms suggestive of organic disease but without an identified cause in a group of individuals with shared beliefs about the cause of symptoms. Outbreaks of mass psychogenic illness affect females more often than males (11).

While outbreaks of psychiatric or neurologic disease without clear explanation are unusual, similar cases have been documented (11-14). The conversion disorder/mass psychogenic illness conclusion is based on individual medical evaluations, the presence of significant life stressors, and demographic characteristics of the cases. It is uncertain what role conversion disorder played in the recurrence/acceleration of symptoms in the three cases with pre-existing medical conditions.

This issue has generated significant concern by families of the impacted students, students, faculty and staff at Le Roy Jr/Sr High School, and the community. It has also attracted national media attention. In an effort to allay community concerns, a public meeting was held on January 11, 2012. The meeting was organized by the LRCSD. Participants, in addition to the school district, included leadership of the NYSDOH and NYSOMH Regional Offices. Participants assured the community that there was no public health concern associated with the cases or the school. Stress was identified as a major contributing factor which can cause and/or exacerbate symptoms. NYSDOH recommends that the affected children continue individualized care with their treating physician.

The findings in this report do not identify a need for the LRCSD to restrict school-related activities or take special health-related precautions because of this situation.

NYSDOH will continue to work with NIH to provide interested families with best-in-nation medical care. Our primary concern continues to be the well-being of the affected students and their families.

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