

Governor Tim Walz
130 State Capitol
75 Rev Dr Martin Luther King Jr Boulevard. #130,
St Paul, MN 55155

Cc: M Health Fairview Mental Health and Addiction Services, Ombudsman for Public Managed Health Care Programs, Mind Freedom International, Minnesota Disability Law Center (MDLC), NAMI Minnesota, Mental Health Minnesota, and Minnesota Brain Injury Alliance

March 24, 2021

Dear Governor Walz,

Happy Spring! Though spring is in the air, I wish I wrote you under better circumstances.

I'm a certified rehabilitation counselor and former professor of clinical psychiatric rehabilitation at San Diego State University. For the past eleven years, I've researched electroconvulsive therapy and its long-term consequences in an effort to better create rehabilitation interventions for Electroconvulsive Therapy (ECT) recipients.

Today I learned about Charles Helmer's court mandated weekly shock therapy. He is a young man living with significant symptoms of mental illness, a disability who As a rehabilitation professional, I'm curious whether the court also mandated comprehensive assessment of ECT's "serious adverse effects" and comprehensive lifetime rehabilitation interventions as indicated—paid for by the state.

I make this inquiry because the FDA required device manufacturers to warn "long-term safety and effectiveness of ECT treatment has not been demonstrated, long-term follow-up may be needed."¹

In recent years, ground-breaking data from manufacturers, researchers and neuropathologists explain why ECT's immediate and long-term effects warrant mandated long-term follow-up and intervention. For example:

October 2018

Riera vs Somatics, LLC (maker of the Thymatron ECT medical device) case settled confidentially after court deposition revealed that in the company's 35 years of operation it no policy to routinely investigate or follow-up on severe adverse event reports filed with the FDA.² Within days of settling, Somatics published a "regulatory update" for their Thymatron user manual citing the American Psychiatric Association as recognizing seven independent risks associated with "permanent brain damage and permanent memory loss."³

- Bilateral electrode placement
- Sine wave stimulation
- High electrical dosage relative to seizure threshold
- Closely spaced treatments
- Larger numbers of treatments
- Concomitant psychotropic medications
- High dosage of barbiturate anesthetic agents

As you can see, during the course of treatment, patients can be exposed to more than one risk at the same time. Some patients are exposed to all seven risks as treatment proceeds.

Questions for state consideration:

1. What measures does the state have in place to assess for and reduce the risk of “permanent brain damage and permanent memory loss” in court mandated ECT recipients?
2. In the event of injury, what rehabilitative measures are presently in place to ameliorate life-long consequences of court mandated treatment?

December 2018

The FDA acknowledged having never received animal and human safety testing for ECT using modern clinical parameters to establish universal dosing limits.⁴ These limits are required to reduce likelihood that ECT recipients will experience permanent brain damage and permanent memory loss.

Questions for state consideration:

3. What will be done to ensure hospitals providing ECT—especially state mandated ECT—are using administration technique and electrical dosing parameters which reduce the likelihood of “permanent brain damage and permanent memory loss”?
4. How will the state verify such measures are in place?
5. Who is responsible for routinely auditing the regulatory process ensuring patient safety of state mandated ECT recipients?

August 2019

Dr. Bennet Omalu, internationally recognized neuropathologist spoke about ECT during a traumatic brain injury advisory board meeting at the California Department of Rehabilitation. (He’s the forensic neuropathologist who first published autopsy findings of NFL players living with Chronic Traumatic Encephalopathy—a newly recognized neurodegenerative disorder). Minutes of that meeting state:

Dr. Bennett Omalu confirmed repetitive head trauma causing functional injuries are not readily seen on standard scans. (including mechanisms of trauma that are sports related, domestic violence, shaken baby syndrome, electrical exposure, repeated toxic exposure, anoxia (oxygen deprived) etc.). Dr. Omalu also confirmed that neuropathology of electrical injury as well as the neuropathology of people with a history of **electroconvulsive therapy is well recognized as causing extensive functional changes to brain activity and should be considered in the context of both electrical injury and repetitive electrical trauma to the head** because natural laws governing electricity aren't changed based on the intent of medical administration.⁵

In light of Dr. Omalu’s advice that ECT recipients be considered through the lens of electrical injury, “delayed electrical injury” is a reality which causes a host of severe effects (including motor neuron diseases); symptom onset ranges from 2.5-10+ years after high field electrical exposure.⁶⁻¹³

Questions for state consideration:

6. What measures are currently in place to ensure court mandated ECT recipients receive treatment interventions and comprehensive support from medical providers trained in repetitive mild traumatic brain injury?
7. What measures are currently in place to ensure court mandated ECT recipients receive treatment interventions and comprehensive support necessary from medical providers trained in pulsed, high fields of electricity?

That same year, the peer-reviewed medical journal, *Anesthesiology* reported extracting data from the full-text of 82 studies involving 106,569 ECT patients and 786,995 ECT treatments. “The most commonly reported major adverse cardiac events were acute heart failure, arrhythmia, and acute pulmonary edema.” Their study summary states “**Major adverse cardiac events and death after ECT ... occur in about one in 50 patients and after about one in 200 – 500 ECT treatments.**”¹⁴

Questions for state consideration:

8. In the event a court mandated ECT recipient develops acute heart failure, arrhythmia, or acute pulmonary edema, will the state ensure appropriate medical intervention?
9. In the event of a court mandated ECT recipient’s death, what measures are in place to reduce the likelihood of that reoccurring?
10. How will the state compensate a family for losing an irreplaceable family member?

Also in 2019, Somatics, LLC published a revealing user manual update reiterating FDA warnings “The long-term safety and effectiveness of ECT treatment has not been demonstrated, and long-term follow-up may be needed.” It is safe to assume that every person receiving court mandated ECT should be assessed for and provided long-term follow-up for the following serious adverse effects:

- Cardiac complications (i.e., heart attack),
- Stroke
- Cognition and memory impairment
- brain injury
- dental/oral trauma;
- general motor dysfunction;
- fractures, contusions, injury from falls, dental
- postictal delirium
- neurological symptoms movement disorders, developing a seizure disorder
- non-convulsive status epilepticus;
- pulmonary complications (i.e., aspiration/inhalation of foreign material, pneumonia, hypoxia, respiratory obstruction such as laryngospasm, pulmonary embolism, prolonged apnea);
- visual disturbance
- auditory complications; onset/exacerbation of psychiatric symptoms;
- suicide; homicidality; substance abuse;
- coma;
- device malfunction (creating potential risks such as excessive dose administration),
- death.

Additionally, extensive research discusses how pulsed high electric fields cause a permanent dysregulation of electrolytes which pass through voltage-gated ion channels.^{15–27} Channelopathies are associated with neuromuscular disorders (some of which are progressive), cardiac abnormalities, migraines, seizures, exercise intolerance and other severe conditions.^{17,19,28–34}

Questions for state consideration

11. Is the state willing to track and routinely assess court mandated ECT recipients for developing symptoms of “delayed electrical injury” even if it means tracking people for decades?
12. How will the state ensure mandated ECT recipients receive comprehensive rehabilitation interventions appropriate to potential treatment consequences listed above?
13. How will the state compensate the recipient for loss of quality of life and increased morbidity following a court mandated ECT treatment in the event court mandated ECT causes electrolyte dysregulation (acquired channelopathies) or motor neuron disease from lengthy repeated exposure to pulsed, high electric fields?

2020

A study conducted by the US Veteran’s Administration examined rates of suicide among all veterans receiving mental health services through the VA over a nine-year period. They discovered people receiving ECT were **16 times more likely to attempt suicide and 1.3x more likely to die by suicide** compared to veterans receiving mental health treatment without ECT. They concluded that **“receiving ECT represents a substantial marker for high suicide risk”**³⁵

Questions for state consideration:

14. What suicide interventions are presently in place to protect court mandated ECT recipients from attempting and/or completing suicide?
15. In the event of suicide, how will the state compensate the family of a court mandated ECT recipient for having mandated a treatment which elevates suicide risk?

2020

Associate Director of Harvard placebo studies co-authored a meta-analysis of all available ECT randomized control placebo trials with a well-published international ECT researcher and colleague. Using Cochrane’s systematic review of placebo studies and criterion specific to ECT administration, they concluded:

The quality of most [Placebo vs–ECT] studies is so poor that the meta-analyses were wrong to conclude anything about efficacy, either during or beyond the treatment period. There is no evidence that ECT is effective for its target demographic—older women, or its target diagnostic group—severely depressed people, or for suicidal people, people who have unsuccessfully tried other treatments first, involuntary patients, or children and adolescents. Given the high risk of permanent memory loss and the small mortality risk, this longstanding failure to determine whether or not ECT works means that **its use should be immediately suspended until a series of well designed, randomized, placebo- controlled studies have investigated whether there**

really are any significant benefits against which the proven significant risks can be weighed. ³⁶

Question for state consideration:

16. Why is the state willing to mandate someone receive ECT which a medical trial expert determined its risks outweigh the benefits?

March 2021

The State of Minnesota has no routine auditing measures in place to ensure FDA's patient safety guidelines are actively followed. There is no state regulatory body auditing ECT use. This month, researchers in the United Kingdom audited the rates of ECT use across the UK based on population. They discovered some ECT providers gave ECT 47x more frequently than other ECT providers. This population-based discrepancy indicates doctors can successfully treat severe mental illness without ECT. It also indicates "the probability of getting ECT seems to be a postcode lottery based on the personal opinions of one or two local psychiatrists. Regional variation is found within other countries and also between countries."³⁷⁻³⁹ The study also discovered deficits in routinely providing recommended assessments and an increasing use of unquantified subjective, assessments.

Questions for state consideration:

17. What measures are presently in place to routinely assess for all severe adverse effects recognized by a device manufacturer?
18. What policies must be created to prioritize and enforce the safe administration of ECT for court mandated recipients?
19. What policies must be created to ensure those injured by state mandated ECT receive comprehensive rehabilitation and support for the duration of their life after treatment?

Mandating ECT requires careful consideration of state responsibilities regarding FDA's recommended long-term follow-up. In light of growing knowledge regarding the nature of repetitive intracranial traumatic brain injury, mandating ECT in its present, unstandardized, limitless form is dangerous to the recipient. Providing a medical treatment which ethically requires life-long care and management of potential electrical injury and repetitive brain injury symptoms is expensive. Treatment results can cause a tremendous, life-long taxpayer burden.

Though my questions and concerns may sound theoretical, I became interested in researching appropriate rehabilitation interventions for ECT recipients because I am one. Initially I experienced 36 years of dense amnesia which erased my personal autobiographical experience including my college education. The State of California's Department of Rehabilitation paid for my re-education after ECT. After obtaining my degree, and getting hired as a professor and research assistant, I began experiencing symptoms of delayed electrical injury. Today, eleven years after ECT, I live with a growing number of serious adverse effects listed in the device manual. I also live with progressive neuromuscular problems which baffles medical providers untrained in electrical injury. Only a handful of doctors understand electrical injury nationwide. Currently, I use a power wheelchair when leaving my home and a speech generating device. Life after ECT is rough. Aging is not a graceful process. I am only 45.

Electroconvulsive Therapy (ECT):



WARNING

When used as intended this device provides short term relief of symptoms. The long-term safety and effectiveness of ECT treatment has not been demonstrated, and long-term follow-up may be needed.

(Somatics LLC. *User Manual Thymatron® System IV*. 2019. Page 7)

Repeated exposure to pulsed, high electric fields cause repetitive intracranial mild traumatic brain injury which progresses with age.



2009: Ended bilateral ECT after 116 treatments



2016: Standing to teach as university professor



July 2019: Walking with walker



2020: power wheelchair



2021: Power wheelchair with speech device

I live with a preventable repetitive intracranial mild traumatic brain injury caused by pulsed, high electric fields. Most medical providers are ill equipped to treat it. Until now, repetitive electrical injuries were considered rare. ECT has yet to be formally considered in that context, but the Brain Injury Association of America (BIA) recognizes “shock” as a form or acquired Brain Injury. In the United Kingdom, Headway Foundation (their equivalent of BIA

I interact regularly with several hundred ECT recipients in online forums who seek medical providers willing to examine their injuries as Dr. Omalu recommends. ECT recipients in their 30’s and 40’s are being diagnosed with early-onset dementia.

Like others with repetitive brain injury, no two people have the exact same symptom manifestations, but patterns among ECT recipients are emerging which must be addressed.

Minnesota does not have a good reputation for investigating the consequences of ECT use. Last February (before COVID), an ECT recipient living at an assisted living facility died sometime within 12 hours after receiving ECT. His independent living facility did not check on him when he fell asleep (as directed) after treatment. One staffer went their entire shift on the day of the person’s death without checking on the person. Documentation for safety checks were not filled out. A medical examiner unfamiliar with ECT’s neuropathology and general pathology concluded the young person died of natural causes, a “sudden cardiac death in Schizophrenia.”⁴⁰

I feel the death could have been prevented had staff understood repetitive, pulsed, high field electricity to the head. Here’s why:

Perhaps facility staff did not understand ECT produces a seizure so violent it silences brain activity for up to several minutes. Brain activity resumes as coma waves, from which the person awakes.⁴¹ After starting ECT and before this person died, newspaper reports parents were unaware their child developed a seizure disorder after starting treatment. There are no regulations in place to monitor for and report known serious adverse effects. ECT providers are not mandated to inquire whether anything has changed since the previous treatment, consequently pursuing treatment as frequently as three times

a week—the equivalent of sending a recently concussed NFL player back onto the field without proper evaluation. The FDA has no safety protocols in place to immediately suspend treatment in the event a ECT recipient developing severe adverse effects.

Making matters even worse, The Minnesota Department of Health's Office of the Inspector General reported that "During the course of the investigation, we determined that ... violations occurred... However, due to the unprecedented public health challenges during Minnesota's peacetime state of emergency due to the COVID-19 pandemic, a correction order will not be issued."⁴²

Final question for state consideration:

20. What state policies will prevent future violations resulting in an ECT recipient's death?

Conclusion

Governor Walz, I appreciate in advance your consideration of grave concerns regarding mandated ECT treatment. In 2008, a report from the United Nations entitled "Torture and other cruel, inhuman or degrading treatment or punishment" stated "it is of vital importance that ECT be administered only with the free and informed consent of the person concerned, including based on information on the secondary effects and related risks such as heart complications, confusion, loss of memory and even death."⁴³

It is evident Charles Helmer does not consent to ECT. Now you understand why. He has the capacity to raise his valid concerns about risk benefit ratio with others. His insight into potential problems caused by ECT motivated him to seek outside support from a network of individuals familiar with ECT's immediate and long-term consequences.

I respectfully request the state carefully consider my 20 questions when evaluating risk benefit ratio associated with court mandated ECT and its impact on life after ECT. Information presented in this letter is intended to augment your understanding of Mr. Helmer's treatment concerns.

Please take action to prioritize patient safety by implementing policy which reflects emerging data on a medical treatment with no acknowledged safety testing or dosing protocols on record with the FDA.

Respectfully,

Sarah Price Hancock, MS, CRC

Psychiatric Recovery and Rehabilitation Consultant,

Patient Safety Advocate & #AuditECT Campaign Leader to ["Standardize, Regulate & Audit Shock Treatments \(Electroconvulsive therapy or ECT\)"](#)

References

1. United States Food and Drug Administration. Reclassification of Electroconvulsive Therapy Devices; Effective Date of Requirement for Premarket Approval for Electroconvulsive Therapy Devices for Certain Specified Intended Uses. December 2018. <https://www.federalregister.gov/d/2018-27809/p-181>.
2. Swartz C. Deposition of Conrad Swartz, Riera vs Somatics, LLC. *United States Dist Court Cent Dist*

- Calif. 2018:1-220. p. 77.
3. Somatics L. *Regulatory Update to Thymatron System IV Instruction Manual*. Lake Bluff: Somatics, LLC; 2018. http://www.thymatron.com/downloads/System_IV_Regulatory_Update.pdf. Accessed November 22, 2018.
 4. Neurological Devices; Reclassification of Electroconvulsive Therapy Devices; Effective Date of Requirement for Premarket Approval for Electroconvulsive Therapy Devices for Certain Specified Intended Uses. Final order. *Fed Regist*. 2018;83(246).
 5. Omalu B, Hansen S, Williams E, et al. *Traumatic Brain Injury Advisory Board Meeting Minutes*. Sacramento; 2019. [https://www.dor.ca.gov/Content/DorIncludes/documents/TBI/TBI Full Committee Meeting Minutes 8-26-19.docx](https://www.dor.ca.gov/Content/DorIncludes/documents/TBI/TBI%20Full%20Committee%20Meeting%20Minutes%208-26-19.docx).
 6. Wesner ML, Hickie J. Long-term sequelae of electrical injury. *Can Fam Physician*. 2013;59(September):935-939.
 7. Grube BJ, Heimbach DM. Acute and delayed neurological sequelae of electrical injury. In: Lee RC, Cravalho EG, Burke JF, eds. *Electrical Trauma*. ; 2010:133-152. doi:10.1017/cbo9780511663291.008
 8. Singerman J, Gomez M, Fish JS. Long-Term Sequelae of Low-Voltage Electrical Injury. *J Burn Care Res*. 2008;29(5):773-777. doi:10.1097/BCR.0b013e318184815d
 9. Migliore A. Sheltered Workshops. In: Stone JH, Blouin M, eds. *International Encyclopedia of Rehabilitation*. The Center for International Research Information; 2010.
 10. Reisner AD. Possible mechanisms for delayed neurological damage in lightning and electrical injury. *Brain Inj*. 2013;27(5):565-569. doi:10.3109/02699052.2013.766928
 11. Andrews CJ, Reisner AD, Cooper MA. Specifying the psychological syndrome post electric and lightning shock: Formulation for DSM. *34th Int Conf Light Prot ICLP 2018*. 2018. doi:10.1109/ICLP.2018.8503474
 12. Andrews CJ, Reisner AD. Neurological and neuropsychological consequences of electrical and lightning shock: review and theories of causation. *Neural Regen Res*. 2017;12(5):677. doi:10.4103/1673-5374.206636
 13. Berg JS, Morse MS. A Shocking Neurological Rarity. *Pract Neurol*. 2004;4:222-227. <https://pn.bmj.com/content/practneurol/4/4/222.full.pdf>.
 14. Duma A, Maleczek M, Panjikanan B, Herkner H, Karrison T, Nagele P. Major Adverse Cardiac Events and Mortality Associated with Electroconvulsive Therapy: A Systematic Review and Meta-analysis. *Anesthesiology*. 2019;130(1):83-91. doi:10.1097/ALN.0000000000002488
 15. CHEN W, LEE RC. Evidence for Electrical Shock–induced Conformational Damage of Voltage-gated Ionic Channels. *Ann N Y Acad Sci*. 1994;720(1):124-135. doi:10.1111/j.1749-6632.1994.tb30440.x
 16. Chen W, Zhongsheng Z, Lee RC. Supramembrane potential-induced electroconformational changes in sodium channel proteins: A potential mechanism involved in electric injury. *Burns*. 2006;32(1):52-59. doi:10.1016/j.burns.2005.08.008
 17. Streck EL, Feier G, Búrigo M, et al. Effects of electroconvulsive seizures on Na⁺,K⁺-ATPase activity in the rat hippocampus. *Neurosci Lett*. 2006;404(3):254-257. doi:10.1016/j.neulet.2006.06.002

18. Teissie J, Tsong TY. Evidence of voltage-induced channel opening in Na/K ATPase of human erythrocyte membrane. *J Membr Biol.* 1980;55(2):133-140. doi:10.1007/BF01871155
19. Waxman SG. Acquired channelopathies in nerve injury and MS. *Neurology.* 2001;56(12):1621-1627. doi:10.1212/WNL.56.12.1621
20. Hjaeresen M-L, Hageman I, Wortwein G, Plenge P, Jørgensen MB. Chronic Electroconvulsive Stimulation but Not Chronic Restraint Stress Modulates mRNA Expression of Voltage-Dependent Potassium Channels Kv7.2 and Kv11.1 in the Rat Piriform Cortex. *Brain Res.* 2008;1217:179-184. doi:10.1016/j.brainres.2007.09.071
21. Kragh J, Seidelin J, Bolwig TG. Seizure threshold to lidocaine is decreased following repeated ECS (electroconvulsive shock). *Psychopharmacology (Berl).* 1993;111:495-498. doi:10.1007/BF02253542
22. Kragh J, Bolwig TG, Woldbye DPD, Jørgensen OS. Electroconvulsive shock and lidocaine-induced seizures in the rat activate astrocytes as measured by glial fibrillary acidic protein. *Biol Psychiatry.* 1993;33(11-12):794-800. doi:10.1016/0006-3223(93)90020-E
23. Lee RC. Cell Injury by Electric Forces. *Ann N Y Acad Sci.* 2005;1066:85-91. doi:10.1196/annals.1363.007
24. Nesin V, Bowman AM, Xiao S, Pakhomov AG. Cell permeabilization and inhibition of voltage-gated Ca²⁺ and Na⁺ channel currents by nanosecond pulsed electric field. *Bioelectromagnetics.* 2012;33(5):394-404. doi:10.1002/bem.21696
25. Nesin V, Pakhomov AG. Inhibition of voltage-gated Na⁺ current by nanosecond pulsed electric field (nsPEF) is not mediated by Na⁺ influx or Ca²⁺ signaling. *Bioelectromagnetics.* 2012;33(6):443-451. doi:10.1002/bem.21703.Inhibition
26. Pei Q, Burnet PW, Grahame-Smith DG, Zetterström TS. Differential effects of acute and chronic electroconvulsive shock on the abundance of messenger RNAs for voltage-dependent potassium channel subunits in the rat brain. *Neuroscience.* 1997;78(2):343-350. doi:10.1016/s0306-4522(96)00574-x
27. Roth CC, Tolstykh GP, Payne JA, et al. Nanosecond pulsed electric field thresholds for nanopore formation in neural cells. *J Biomed Opt.* 2013;18(3):035005. doi:10.1117/1.jbo.18.3.035005
28. Kim J. Channelopathies. *Korean J Pediatr.* 2014;57(1):1-18. <http://dx.doi.org/10.3345/kjp.2014.57.1.1>.
29. Nicole S, Fontaine B. Skeletal muscle sodium channelopathies. *Curr Opin Neurol.* 2015;28(5):508-514. doi:10.1097/WCO.0000000000000238
30. Erro R, Bhatia KP, Espay AJ, Striano P. The epileptic and nonepileptic spectrum of paroxysmal dyskinesias: Channelopathies, synaptopathies, and transportopathies. *Mov Disord.* 2017;32(3):310-318. doi:10.1002/mds.26901
31. Cannon SC. Pathomechanisms in Channelopathies of Skeletal Muscle and Brain. *Annu Rev Neurosci.* 2006;29(1):387-415. doi:10.1146/annurev.neuro.29.051605.112815
32. Meola G, Hanna MG, Fontaine B. Diagnosis and new treatment in muscle channelopathies. *J Neurol Neurosurg Psychiatry.* 2009;80(4):360-365. doi:10.1136/jnnp.2008.164046

33. Schattling B, Eggert B, Friese MA. Acquired channelopathies as contributors to development and progression of multiple sclerosis. *Exp Neurol*. 2014;262(Part A):28-36. doi:10.1016/j.expneurol.2013.12.006
34. Matthews E, Balestrini S, Sisodiya SM, Hanna MG. Muscle and brain sodium channelopathies: genetic causes, clinical phenotypes, and management approaches. *Lancet Child Adolesc Heal*. 2020;4642(19):1-12. doi:10.1016/S2352-4642(19)30425-0
35. Peltzman T, Shiner B, Watts B V. Effects of Electroconvulsive Therapy on Short-Term Suicide Mortality in a Risk-Matched Patient Population. *J ECT*. 2020;36(3):187-192. doi:10.1097/YCT.0000000000000665
36. Read J, Kirsch I, McGrath L. Electroconvulsive Therapy for Depression: A Review of the Quality of ECT versus Sham ECT Trials and Meta-Analyses. *Ethical Hum Psychol Psychiatry*. 2019;21(2):64-103. doi:10.1891/EHPP-D-19-00014
37. Read J. Report Finds Monitoring of Electroshock Treatment Unsafe. Psychology Today. <https://www.psychologytoday.com/us/blog/psychiatry-through-the-looking-glass/202103/report-finds-monitoring-electroshock-treatment>. Published 2021.
38. Read J, Harrop C, Geekie J, Renton J, Cunliffe S. A second independent audit of electroconvulsive therapy in England, 2019: Usage, demographics, consent, and adherence to guidelines and legislation. *Psychol Psychother Theory, Res Pract*. 2021;Online ahe. doi:10.1111/papt.12335
39. Leiknes KA, Schweder LJ, Høie B. Contemporary use and practice of electroconvulsive therapy worldwide. *Brain Behav*. 2012;2(3):283. doi:10.1002/brb3.37
40. Strobl AQ. *Autopsy Report*. Ramsey; 2020.
41. Kirstein L, Ottosson J-O. Experimental studies of electroencephalographic changes following electroconvulsive therapy: the role of the electrical stimulation and of the seizure studied by variation of stimulus modification by lidocaine of seizure discharge. *Acta Psychiatr Scand Suppl*. 1960;35(145):49-67. <https://pubmed.ncbi.nlm.nih.gov/14409401/>.
42. Slater B. Duluth group home avoids penalty for resident's death. *Duluth News Tribune*. <https://www.duluthnewstribune.com/newsmd/health-news/5921381-Duluth-group-home-avoids-penalty-for-residents-death>. Published April 22, 2020.
43. United Nations. *Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*.; 2008. <https://www.un.org/disabilities/images/A.63.175.doc>.