THE RELATIONSHIP OF INCREASED MOOD ALTERATIONS AND INDUSTRIAL WIND TURBINES:

Implications and Social Justice

WindVOiCe©

(Wind Vigilance for Ontario Communities)

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Key words: mood disorders, stress, anxiety, depression, quality of life, cognitive dysfunction, anger, grief, social justice, vigilance, self reporting survey

Industrial wind turbine projects became operational in rural Ontario, Canada in 2005. Within a short period of time, residents near the projects reported noticing adverse health effects. By 2008, reports of health problems became more common and had been associated with the advent of Industrial Wind Turbines. In some cases Ontario families have abandoned their homes to protect their health.

Government vigilance and long term surveillance programs for industrial wind turbines do not exist in Canada. Volunteers in various affected communities organized and funded an Ontario-based vigilance health survey to capture and document the array of adverse health effects being reported. Reports are now being received from other jurisdictions.

Wind Vigilance for Ontario Communities (WindVOiCe) is a community based self-reporting health survey based on the principles of Health Canada's Canada Vigilance Program designed to monitor suspected drug reactions. This survey is ongoing.

WindVOiCe respondents report altered quality of life. Sleep disturbance is the most common health complaint. Other symptoms include but are not limited to inner ear problems, cardiac concerns, and headaches.

Respondents report in the comments section of the survey, anger, frustration, and loss of cognitive functions such as inability to concentrate, 'foggy thinking' and short term memory loss. Depression anxiety and stress are common.

118 Respondents 1,2

Altered quality of life	Altered health	Sleep disturbance	Stress	Anxiety	Depression
109	104	85	77	62	47

The symptoms of adverse health effects reported are consistent with other surveys and research conducted by clinicians such as Harry, Pierpont⁴, Nissenbaum⁵.

Parents have responded on behalf of their children and indicated adverse reactions such as vomiting, nausea, nose bleeds and headaches.

118 Respondents ^{6,7}

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Headache	Migraines	Excessive tiredness	Palpitations	Tinnitus / Hearing Problems	Approached physician
71	14	90	38	59 / 37	44

In the comments section of the survey some respondents describe their emotional toll. They describe disturbed living conditions, loss of enjoyment of their homes and property, and financial loss due to the negative impact to the health of their families which further contributes to increased stress levels.

Informal discussions with respondents indicate some family members grieve deeply. These include those who suffer adverse health effects, those who had to abandon their homes, and those who had to sign non-disclosure agreements as a condition of a buy out of their homes by the wind developer. They feel victimized by the very systems that normally would protect them. The lack of social justice hurts deeply.



A self-reporting survey: adverse health effects with industrial wind turbines and the need for vigilance March/July/September 2009

/*	/ N		Gender Occupation		Time of C	Jode ty Health						Anxieta	Tinnitus	aind plai	Jens Jens Jens	ance /	//	ch/July/Se	, d
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1	54	f	farmer	800	30.5	No	No	No	No	No	No	No	No	No	No	No	No No	n/a	Yes
3	56 56	m	farmer farmer	800	31	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	No No	No Yes	No Yes	n/a Yes	Yes Yes
<u>4</u> 5	53 45	f	homemaker cmi	800 1200	34 45	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes No	Yes Yes	Yes No	Yes No	Yes Yes
7 8	50 53	m m	self empl farmer	800 950	49 52	Yes Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes	No No	No No	Yes Yes
9	n/a 63	m	farmer retired	1000 717	8 32	Yes Yes	No Yes	No No	Yes	Yes	Yes	Yes	Yes Yes	Yes Yes	No	No	No Yes	No Yes	Yes Yes
13	60	f	retired	717	32	Yes	103	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NO	140	Yes	Yes	Yes
16 17	47 47	m	ed Asst. truck driver	1600 1600	20 20	unsure	Yes		Yes Yes					Yes				Yes Yes	No No
18 19	28 29	f	teacher soc. Worker	717 717	18 vis	Yes Yes	Yes Yes	No No	Yes No	Yes Yes	No No	No Yes	No No	Yes Yes	No No	Yes No	Yes No	No No	Yes Yes
21 22	50 52	f m	sales seld empl	457 457	4	Yes Yes	No Yes	No	Yes Yes	Yes Yes	No	No Yes	No	Yes Yes	No	No	Yes	Yes	Yes Yes
23	26 59	f	graphic designer	800 700	26	No		Na				103			Vas	Na		Vac	Yes
27	31	m	retired farm	3500	2	Yes No	Yes	No	Yes	Yes				Yes	Yes	No		Yes	Yes
33 34	53 53	m f	truck driver farmer	1200 1200	30 30	Yes	No Yes	Yes ?	No Yes	No Yes	No Yes	Yes Yes	Yes No	Yes Yes	No No	No	No Yes	No Yes	Yes Yes
38 39	50 71	m f	farmer retired	350 983	10	Yes Yes	Yes Yes	No Yes	No Yes	No Yes	No Yes	Yes Yes	No Yes	No Yes	No	No Yes	No No	No No	Yes Yes
40 41	67 67	m f	retired	548 548	30 30	Yes Yes	Yes Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes Yes	Yes	Yes	?	Yes	Yes Yes
44	65	f	retired retired	n/a	n/a	Yes	Yes	Yes	Yes	Yes	h 1	h 1	h 1		h 1	k 1	Yes	Yes	Yes
45 46	24 22	m m	police officer engineer	800 808	11	Yes Yes	No Yes	No No	Yes No	Yes Yes	No No	No Yes	No No	No Yes	No No	No No	No	No No	Yes Yes
47 48	19 21	f	student student	808 808	19 0.25	Yes Yes	No Yes	Yes No	Yes Yes	Yes Yes	No No	Yes Yes	No No	Yes Yes	No No	No No	Yes No	Yes No	Yes Yes
49 50	53 51	f m	teacher carpenter	808 808	11	Yes Yes	Yes Yes	Yes No	Yes	Yes Yes	Yes No	Yes n/a	Yes No	Yes Yes	No No	No No	Yes Yes	Yes No	Yes Yes
51	45-60	m	technician	1000	26	Yes		INO					INO		INO	Yes	165	No	Yes
52 54	45-60 53	f m	homemaker ems	close 1000	21 0.67	Yes No	Yes		Yes	Yes	Yes	Yes		Yes		Yes		No	Yes Yes
58 59	68 42	m m	ret'd farmer bus/farmer	650 1000	39 19	Yes Yes	Yes No	No	Yes	Yes	Yes	Yes Yes	Yes	Yes	No	No		No Yes	Yes Yes
60 61	60 45-60	f	retired	750 500	10	No Yes	No Yes	No	No Yes	No Yes	No	No Yes	No Yes	No Yes	No No	No Yes		Yes	Yes Yes
62	30-45	f	manager food_prep	500	20	Yes	Yes	Yes No	Yes	No	Yes Yes	No	Yes	Yes	No	Yes		No	Yes
65 66	>60 >60	m m	farmer farmer	450 650	45 62	Yes No	No	No	No	Yes	Yes	No	No	No	No	No		Yes	Yes Yes
67 68	56 45-60	f	homemaker retired	unclear 1300	30 32	Not sure Yes	Yes	No	Yes	Yes	Yes	Yes No	No	Yes	No	Yes		Yes No	No Yes
69 70	36 39	m	firefighter	550	5 5	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No	Yes		110	Yes
71	30-45	f	sales access control	550 704	5	Yes Yes	Yes Yes	No Yes	Yes	No	No	Yes	Nos	Yes	Nos	No		No	Yes Yes
72 73	30-45 70	m f	millwright homemaker	700 800	37	Yes Yes	Yes		Yes	Yes	Yes			Yes		Yes Yes		No Yes	Yes
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	44 43	f m	unemployed	400	10	Maybe	res	Yes	Yes	Yes	Yes		No	Yes	No	res	Yes Yes	165	Yes
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Not affected: 26 respondents with no health effects

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6	86	f	homemaker	800	30	No														
10	61	f	psw	?	17	No													No	
11	63	m	farmer	?	17	No										<u> </u>			No	
14	28	m	farmer	500	6	No													Yes	
15	27		accountant	500	3	No													Yes	
20	51		Soc. Serv.	1000	7	No														
25	57	f	retired	1000	19	No													No	
26	56	m	teacher	1000	19	No													No	
28	65	m	crusher op.	500	38	No													No	
29	60	f	homemaker	500	38	No													No	
30	28	m	farmer	1200	28	No													No	
31	64	m	farmer	800	40	No													No	
32	60	f	greenhouse	800	40	No													No	
35	42	f	clerk	800	9.5	No	No	No	No	No	No	No	No	No	No	No			No	
36	39	m	carpenter	800	9.5	No	No	No	No	No	No	No	No	No	No	No			No	
37	43	f	cook	?	13	No														
42	66	m	sales/farmer	800	26	No	No	No	No	No	No	No	No	No	No	No			No	
43	?		retired	800	26	No														
53	n/a		trucker	800	45	No													No	
55	n/a	f	homemaker	700	13	No	No	No	No	No	No	No	No	No	No	No			No	
56	42	f	supervisor	n/a	4	No													No	
57	44	m	mechanic	n/a	4	No													No	
63	?		farmer	1005	34	No													No	
64	?		farmer	2006	40	No													No	
104	63	f	retired	close by	7	No													No	
105	61	m	police officer	close	7	No														

Other (Out of Province)

*	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\$ /	Sender Occupation	Distance t	Time at a	joberty Hearth	attered	Headache	Salling Color	is life	diess Stress	Arriett	Tinnitus He	oino pob	ens listur	and are	Depte Sign C	Approached Approached	doctor Altered duality	Softife .
1001	59	m	Landscaping	700	9	Yes	No	Yes	Possibly	Yes	Yes	No	No	Yes	No	Possibly	See comment	No	Yes	
1002	56	f	Landscaping	694	9	Yes	No	No	No	Yes	Yes	No	No	Yes	No	No		No	Yes	
1003	25	m	Truck Driver	700	Visit 3 days	Yes	Yes		Yes								Just visiting			
1004	50	m	Former Fisherman	300	27	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes			Yes	
1005	20	f	Student	300	19	Yes	Yes	No	Yes	No	Yes	No	No	Yes	No	Yes			Yes	
1006	46	f	Homecare	300	27	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
1007	17		student	300	16	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No	Yes			Yes	
1008	14	m	Student	300	13	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes		Yes	
1009	10	m	Student	300	9	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No	Yes				

1) Includes 9 respondents from other jurisdictions

2)WindVOiCe (Wind Vigilance for Ontario Communities, July 2010 www.windvigilance.com
3) Harry, Amanda. February 2007. Wind turbines, noise, and health. 32 pp. http://www.windturbinenoisehealthhumanrights.com/wtnoise_health_2007_a_barry.pdf
4) Nina Pierpont, MD, PhD, Wind Turbine Syndrome: A Report on a Natural Experiment www.windturbinesyndrome.com

4) Nina Pierpont, MD, PhD, Wind Turbine Syndrome: A Report on a Natural Experiment www.windturbinesyndrome.com
5) Dr. Michael Nissenbaum, Northern Maine Medical Center, Presentation to Maine Medical Association, March 20, 2009
6) Includes 9 respondents from other jurisdictions

7) WindVOiCe (Wind Vigilance for Ontario Communities, July 2010 www.windvigilance.com



A SNAPSHOT OF COMMENTS FROM RESPONDENTS (ONTARIO)

Number 003

"Feel no [one] cares or believes us."

Number 004

"Our finances are not as good because of living in two places. All family events including Christmas has not been in our family home. No one should have this happen to them. We were fine before the wind farms came."

Number 005

"The damage that has been done to my body – scares me what will happen in the future... A very uncertain future!!"

We have discouraged our two daughters and son-in law from visiting. They have also experienced health issues when visiting.

Number 019

"I am unable to come home to visit my parents as often as I would like. Due to my parents ongoing adverse health effects I feel discouraged.... My childhood home no longer feels like a place to relax ...in a peaceful environment. I am sick over what the turbines have done to my family & community."

Number 021

"My house is worth nothing now. I could never sell it. Angry, sad, disillusioned, exhausted."

Number 024

"Because I have a conflict of interest, I am not signing my name but I do not want anyone else to suffer as we did for 8 or 9 months."

Number 040

"I now live on drugs that don't seem to help."

Number 046

"Because of this I do not want to stay in our home or for that matter come home. the biggest change has been the effect on my Mom, sister and Dad's health, especially Mom. To see her suffering from health problems, getting sicker and sicker just pisses me off. It really bothers me a lot."

Number 047

"My family has been ripped apart with Mom not able to live at home. Not having Mom around to talk to about school or friend and personal stuff has been and is hard. Very hard."

Number 049

"We did not invite the Grand mothers over to visit much or stay over due to the concern for their health...We send love over the phone or on message sheets on the counter."

"Lost total faith in government to safeguard myself, my family and other Ontario families. I do not trust the word or intentions of experts compared to before Nov. 2007."

Number 051

"The visual impact of the navigation lights has had a profoundly negative effect on our night sky. In the day-time the obvious industrialization of our landscape adds to this demoralization."

Number 052

"The blinking red lights at night just depresses me and ticks me off. I might as well be at an airport landing strip. The same goes when I just look around."

Number 060

"It is the responsibility of the wind turbine company and/or Hydro One to ensure that their life and health returns to pre wind turbine quality."

Number 069

"The rear of our house is all windows, at night all you see is the warning lights. It is driving me crazy. We had no say in the mills because we weren't getting one. The persons that got them get paid and don't live near them."

Number 077

"It is equally disturbing to know that our politicians and so called "leaders" have such blatant disregard for individual lives. This is also applicable to so called neighbours."

Number 079

"...our plans to retire here are on hold and may need to change"

Number 085

"...flicker issues at certain times of day on house walls inside & reflections on windows"

Number 088

"Now all I see is flickering blades and blinding red lights. The sunsets have disappeared into money hungry pockets of our government."

"I now am a prisoner in my own home of 23 years."

Number 089

"My various levels of gov't has desserted me and ignore my concerns."

"This is not the future I had planned when I invested my energy, time and money in this place."

"I choose to live here for what it was, not what it has become."

Number 101

"My doctor does not understand the situation."

Number 106

"I cannot go a day without thinking about Wind Turbines. They are everywhere you look, noisy, lights flashing."

Number 108

I had, and still have a hard time understanding how this could have happened without me knowing... A modern day David and Goliath. The giant(s) win again... I no longer look forward to coming home..."

Number 109

"It is difficult when you want to visit your loved ones, however, you know that you are going to an environment that will cause you harm. Not a choice anyone should have to make!"

Number 110

"...feel violated... we trusted township and [wind company]"

Number 115 - Young Child Form completed by parent

"[Child's name] describes "bees" in his ears – I believe ringing ringing from W.T. s.[wind turbines]"

[approached doctor] ...does not have knowledge of WTS but has heard some comments from local public health."

[sleep disturbance] sleeps but does not seem rested.

"I feel both my children are "different" in their behaviour – two happy, well-behaved children have become irritable and unreasonable w/tempers and agitation... This is compounded by the fact that my husband and I are affected and sleep deprived and I imagine have lower patience, tolerance and are irritable also."

Number 117

"I just want to move."

Number 119

"Our anguish is great. We feel betrayed. There is no help. This is our home, our refuge, but we can hardly stand to be here."

8) See comments section: A self-reporting survey: adverse health effects with industrial wind turbines and the need for vigilance July 2010 www.windvigilance.com





Ontario family sleeps in tent to escape wind turbine Low Frequency Noise.