



Key Findings June 21, 2015

Presentation by: Lilli-Ann Green

Background

- Lilli owns a full service healthcare consulting and education company founded in 1979.
- More than 300,000 physicians and health care professionals throughout the United States have participated in our company's educational programs.

Research Conducted

- Discovered adverse health impacts from wind turbines while conducting research regarding wind turbine proposal in our town – March 2010.
- One month after the town I live in rejected proposal, it was discovered that people in Falmouth, MA presented with symptoms my business partner and I informed the officials in our town of – spring 2010.
- Travel to Australia and New Zealand leads to interviews conducted with people impacted by wind turbines and experts, recording symptoms of people on the other side of the globe, same as people in Falmouth, MA – winter 2011.
- Film created, Pandora's Pinwheels [<https://www.youtube.com/watch?v=H5j-EftX8U4>] (2011, presentations conducted and film translation in Dutch and French).
- Travel and research continued in 2012.
- Research and advocacy continued following travel.

Interviews Conducted in 15 Countries

The countries conducted interviews in are:

- US
- Australia
- Canada
- China
- Denmark
- England
- France
- Germany
- Ireland
- The Netherlands
- New Zealand
- Portugal
- Scotland
- Sweden
- Wales

Videotaped Interviews Conducted

- People living in the proximity of wind turbines



Australia



England



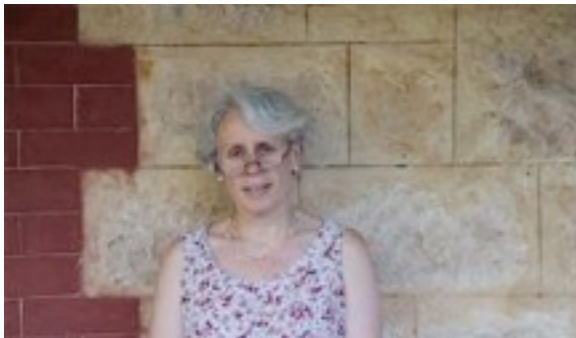
Netherlands



Denmark

Videotaped Interviews Conducted (continued)

- **Health care professionals** (doctors, nurses, pharmacists, pharmaceutical executives, consultants)



Dr. Sarah Laurie, Australia



Dr. Harry Belk, Netherlands



Carmen Krogh, BSc Pharm, Canada



Stephen Russell, Nurse, NZ

Videotaped Interviews Conducted (continued)

- **Researchers/Scientists** (psychoacousticians, acoustics experts, sleep experts, biologists, engineers)



Pat Swords, PhD, Ireland



Daniel Shepherd, PhD, New Zealand



Huub Bakker, PhD New Zealand



Mariana Alves-Pereira, PhD, Portugal

Videotaped Interviews Conducted (continued)

- Politicians



Struan Stevenson, MEP Scotland, President of European Parliament's Climate Change, Biodiversity & Sustainable Development Intergroup (over 100 members)



John Madigan, Federal Senator, AU



Town Council Member, Scotland

Videotaped Interviews Conducted (continued)

Journalists



Brendan Gullifer, Australia



Christopher Booker, England



Peter Skeel Hjorth, Sweden

Videotaped Interviews Conducted (continued)

- **Environmentalists** (professionals, national Green Party politicians, regional and local)



Clive Hambler, PhD Oxford University, England

Videotaped Interviews Conducted (continued)

- **Advocates** (international, national, regional and local)

Australian Landscape Guardians,
Peter Mitchell



Country Guardians founder,
Angela Kelly, England



EPAW founder and Chairman,
Jean-Louis Butre, France



CATS founders, Scotland
Susan Crosthwaite and Kim Terry



Beth Harrington, Canada



Ireland Spokesperson for EPAW,
Val Martin

Videotaped Interviews Conducted (continued)

- Others



Economist – New Zealand



Attorney - Denmark



Farmer - France



Artist - Wales



Realtor - Canada



Farmer/Artist – NZ



Key Findings



Social Injustice

- Individual Rights have been taken away.
 - Health
 - Property values
 - Outcast status
- Community Rights – local control
 - Local governments in N. America, Australia, Europe, and New Zealand have rejected wind turbine proposals but when the developer appeals to the state, region or country, it is mandated that wind turbines are constructed.

Social Injustice

- Electric prices have risen in areas with large concentration of wind and solar energy.
 - Fuel poverty
- People impacted speak out when they realize it is due to wind turbines.
- Isolation – impacted people are ostracized.
- Community fracture
- People with courage continue to speak out to help others around the world.

Globally - Clusters of People

- In all of the countries we visited, we found clusters of people living in the proximity of wind turbines that report the same symptoms, using the same words and gestures.
- People describe the symptoms Nina Pierpont, MD, PhD has outlined as Wind Turbine Syndrome.



Common Symptoms People Experience

- “Sleep disturbance and deprivation which leads to a whole host of ailments.
- Headache, tinnitus (ringing in ears), ear pressure, dizziness, vertigo (spinning dizziness), nausea, visual blurring, tachycardia (fast heart rate), high blood pressure, irritability, problems with concentration and memory, and panic episodes associated with sensations of movement or quivering inside the body that arise while awake or asleep.
- People with pre-existing migraine disorder, motion sensitivity, or damage to inner ear structures (such as hearing loss from industrial noise exposure) are more susceptible than other people.”

Nina Pierpont, MD, PhD - *Wind Turbine Syndrome. A Report on a Natural Experiment*

Consequences of Sleep Deprivation

“In the short term:

- Decreased Performance and Alertness
- Memory and Cognitive Impairment
- Stress Relationships
- Poor Quality of Life
- Occupational Injury
- Automobile Injury

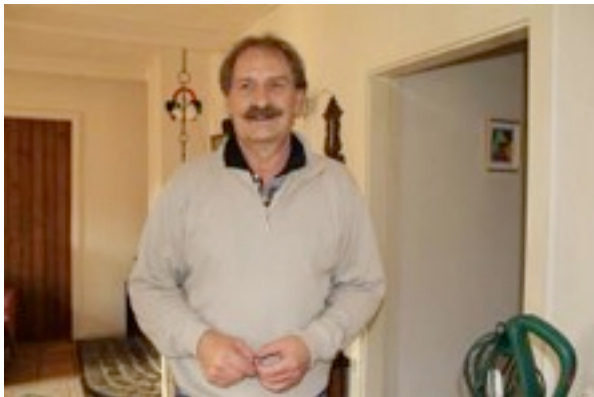
In the long term, the clinical consequences of untreated sleep disorders are large indeed. They are associated with numerous, serious medical illnesses, including:

- High blood pressure
- Heart attack
- Heart failure
- Stroke
- Obesity
- Psychiatric problems, including depression and other mood disorders
- Attention Deficit Disorder (ADD)
- Mental impairment
- Fetal and childhood growth retardation
- Injury from accidents”

<http://www.webmd.com/sleep-disorders/features/important-sleep-habits?page=2>, Accessed 6/21/15

People Who Do Not Speak English

- People in the non-English speaking countries of Europe that we interviewed are experiencing the same symptoms as people in English speaking countries.
- Some people we interviewed do not speak English and live in small rural villages with no internet access.



Denmark



Netherlands



France

Lack of Information

- Many people living in the proximity of wind turbines are not informed about potential health impacts of wind turbines.
- Example:
 - In 2012 we interviewed people in the Netherlands living for 11 years, 1,500 feet from the nearest wind turbine.
 - They have been complaining of health problems to their health care providers for these 11 years.
 - In 2012 people in their community found a film I created in 2011 showing interviews of people living near wind turbines and suffering health problems in Australia and New Zealand. My film was then translated it into Dutch.
 - The people in this area of the world now know that the health symptoms they suffer are the same as the people half way around the world.



Health Care Professionals

- Health care professionals often are unaware of the health problems caused by wind turbines.
- People living in the proximity of wind turbines are often misdiagnosed.
 - Example of theme repeated in stories from people all over the globe:
 - In a town near Boston, Massachusetts a man told me about his experience with ear pressure and ear pain.
 - He visited his primary care provider regarding his symptoms after the wind turbines were turned on in his town.
 - The doctor sent him to three specialists. The specialists thought it may be allergies.
 - The man soon found that his two children, his wife and neighbors all were experiencing the same symptoms.
 - He then found an article about adverse health impacts regarding wind turbines when he was looking for another topic.
 - When the turbines are not operating he, his family and neighbors do not experience the symptoms. When they leave their home they do not experience the symptoms, when they return home the symptoms are experienced when the turbines are in operation.
 - A human tragedy and a waste of health care resources.
- Health care professionals frequently prescribe medication for anxiety and sleep.

Distance from Turbines

- People on three continents who live 6.2, 7.5 and 8.7 miles from the nearest turbine reported experiencing symptoms.



United States, France and Australia

Longevity of Exposure

- We also interviewed people who have lived over 10 years 1,500 feet from 200kw turbines and are experiencing severe symptoms, some reported as life threatening.



Germany

Dose-response

- In 2012 we visited the same people in four locations in Australia and New Zealand that we interviewed 12 months earlier. All of the people who remained living in their homes reported that they felt worse than they did the previous year.
- People interviewed globally consistently stated that their symptoms have grown more severe over time.
- Not one person who continued to live in the proximity to wind turbines reported feeling better over time. Those who moved reported that they feel better.

Cardiovascular Disease - Hypertension

- People living in North America, Australia, Europe and New Zealand report having normal or low blood pressure readings for many years prior to the construction of wind turbines.
- After the wind turbine/s became operational, these people experience dangerously high blood pressure readings when the wind turbines are operating.
- Their blood pressure readings are normal or low when they leave the area with the wind turbines or when the wind turbines are not operating.
- Several people reported to us that their doctors have advised them to move if they did not want to die as a result of a heart attack or stroke.

Well Managed Chronic Illness

- People with well-managed chronic illness reported finding significant health problems and symptoms from such illnesses with even short exposure to wind turbines.



Denmark



England

Marina Alves-Pereira

Infrasound and Low Frequency Noise (ILFN) And Vibroacoustic Disease (VAD)

- “Wrong Assumption : **What you can't hear won't hurt you.**
- Therefore : To protect against noise, only measure what humans can hear!
- Which implies : No measurements of non-audible acoustic phenomena...”

Property Values Decline

- People have sold homes at significant loss.
- People are trying to sell homes but can not do so.
- Many people talked about property value declines and some said that their property is now “worthless”.



Home Owners - Netherlands



Multi-property Owners - NZ

Abandoned Homes

- We interviewed people who could no longer live in their homes due to their adverse health impacts.



Saved whole work life for retirement home he built in dream community. Due to adverse health impacts, moved to a trailer and a shack with dirt floor – no air conditioning in 100 degree heat, Australia. Brother moved to garage in back of mother's home.

The Workplace

- People are being subjected to flicker and adverse health impacts in their workplace.
- Employers had no say in wind turbine siting.
- Owners of work buildings have lodged complaints but have been told they have no rights.



Human Rights

- The human suffering is real and a modern global tragedy.
- Honest and unbiased research is needed so that we understand how to do no harm to people in the proximity of wind turbines – the Precautionary Principle.
- Educational efforts are critical.
- Information and resources are needed.
- Global network is important.

Successes to Raise Awareness

- The stories of people impacted are becoming more widely known in society.
- Information is being more widely distributed globally.
- Films are being produced and shown, ex. *Windfall*.
- Scientific evidence is mounting.
- People with influence are starting to listen.
- Laws are changing.