

Open letter to medical professionals and the AMA: Start the conversation

Whereas, within the last 20 years there has been an alarming increase in serious illnesses in the US, along with a marked decrease in life expectancy ([Bezruchka, 2012](#)); and

Whereas, the onset of serious illness is appearing in increasingly younger populations: neurological disease ([Pritchard et al., 2013](#)); obesity, asthma, behavior & learning problems and chronic disease in children and young adults ([Van Cleave et al., 2010](#)); type II diabetes in youth ([Rosenbloom et al., 1999](#)); and

Whereas, the rate of chronic disease in the entire US population has been dramatically increasing with an estimated 25% of the US population suffering from multiple chronic diseases ([Autoimmunity Research Foundation, 2012](#)); and

Whereas, during this same time period, there has been an exponential increase in the adoption of Genetically Modified Food (GMO) crops with associated applications of glyphosate to food crops ([Benbrook, 2012](#)); and

Whereas, over 90% of corn, soy, sugar beets and canola are GMO, modified to withstand direct application of herbicides; and

Whereas, it has become routine for pre-harvest ripening to spray grain, legumes and sugar cane with glyphosate; and

Whereas, Glyphosate and its degradation product, aminomethylphosphonic acid (AMPA) have been detected in **air** ([Majewski et al., 2014](#), [Chang et al., 2011](#)), **rain** ([Scribner et al., 2007](#); [Majewski, 2014](#)), **groundwater** ([Scribner, 2007](#)), **surface water** ([Chang, 2011](#); [Scribner, 2007](#); [Coupe et al., 2012](#)), **soil** ([Scribner, 2007](#)) and **sea water** ([Mercurio et al., 2014](#)), showing that glyphosate and AMPA **persist in the soil and water** and the amounts detected are increasing over time with increasing agricultural use; and

Whereas, glyphosate & AMPA residues are high in our **food** (residues as high as 15 parts per million have been detected in GM soybeans with no residues detected in organic or conventionally grown soy [Bohn et al., 2014](#)); and

Whereas, glyphosate bioaccumulates in organs and tissue ([Kruger et al., 2014](#)); and

Whereas, the biological pathways between glyphosate and chronic disease have been outlined ([Samsel & Seneff, 2013a](#)); and

Whereas, time trends of the rise in chronic diseases along with the rise of glyphosate use and the adoption of GM crops show very high correlations with very strong statistical significance ([Swanson, 2013](#)); and

Whereas, glyphosate has been shown to be toxic to the liver and kidneys ([Cattani et al., 2014](#); [Jayasumana et al., 2014](#); [Lushchak et al., 2009](#); [El-Shenawy, 2009](#); [de Liz Oliveira Cavalli et al., 2013](#); [Séralini et al., 2011](#)); and

Whereas, glyphosate is a patented chelating agent (U.S. patent number [3160632 A](#)) causing

mineral deficiencies; and

Whereas, glyphosate is a patented anti-microbial & biocide (U.S. patent number [20040077608 A1](#) & U.S. patent number 7771736 B2) that preferentially kills beneficial bacteria in our intestines leading to nutrient deficiency, chronic intestinal diseases, inflammation, and autoimmune diseases ([Samsel & Seneff, 2013b](#); [Kruger, 2013](#); [Shehata et al., 2012](#); [Carman et al., 2013](#)); and

Whereas, it is illegal to administer a drug (antibiotic and biocide) in our food without a medical license to do so; and

Whereas, glyphosate leads to teratogenicity and reproductive toxicity in vertebrates ([Antoniou et al., 2012](#)); and

Whereas, glyphosate is an endocrine disruptor ([Gasnier et al., 2009](#); [Paganelli et al., 2010](#); [Antoniou et al., 2012](#); [Thongprakaisang et al., 2013](#)); and

Whereas, there are no “safe” levels of endocrine disruptors ([Vandenberg et al., 2012](#); [Bergman et al., 2013](#)); and

Whereas, imbalances and malfunctions of the endocrine system can lead to diabetes, hypertension, obesity, kidney disease, cancers of the breast, prostate, liver, brain, thyroid, non-Hodgkin's lymphoma ([Marc et al., 2004](#); [Thongprakaisang et al., 2013](#)), osteoporosis, Cushing's syndrome, hypo- and hyperthyroidism, infertility, birth defects, erectile dysfunction, ([Soto & Sonnenschein, 2010](#)), sexual development problems and neurological disorders such as: learning disabilities, attention deficit disorder ([de Cock et al., 2012](#)), autism ([Schulkin, 2007](#)), dementia ([Ghosh, 2010](#)), Alzheimer's ([Merlo et al., 2010](#)), Parkinson's and schizophrenia ([MacSweeney et al., 1978](#)); and

Whereas, endocrine disruptors are especially damaging to organisms undergoing hormonal changes: fetuses, babies, children, adolescents and the elderly ([Bergman et al., 2013](#));

Whereas, the use of glyphosate as an herbicide for numerous decades in the USA and now as a component compound in GMO foods has adversely impacted its human exposure factor to implode within the standard of medical surveillance and care; and

Whereas, a chronically ill patient suffering from long-term, systemic poisoning will not respond to traditional treatment; and

Whereas, most medical personnel are trained only in acute poisoning and not in systemic poisoning; and

Whereas, you have sworn an oath “to apply, for the benefit of the sick, all measures which are required,” and to “prevent disease whenever I can, for prevention is preferable to cure”; and

Whereas, the liability will be on the professional who did not recognize glyphosate poisoning in his/her patients;

We, the undersigned, implore you to take the following actions:

Order toxicology tests for your chronically ill patients, in particular screening for glyphosate and its degradation product AMPA.

Educate yourselves on how to deal with systemic poisoning and detoxification.

Open the conversation with your patients, family and colleagues.

Establish a procedure for surveillance and tracking.

The medical surveillance programs for any hazardous material, such as glyphosate, are designed to systematically collect and analyze health information on exposed individuals to toxic substances. The components involved in a comprehensive medical surveillance program and how these components interrelate should include the following:

1. Biological Monitoring;
2. Protocols for testing and treating;
3. Determination of health hazards, exposures, and job-related risks;
4. Tracking systems;
5. Specific history of what the patient was exposed to or doing prior to their symptoms;
6. Exposure Monitoring System for environment, food, humans and domestic/food animals.

The biological monitoring component for glyphosate and its degradation and metabolic metabolites is a key component which is designed to anticipate disease by sampling and analyzing solid tissues, secretions or excretions. The end results of this monitoring are used to take both preventive and ongoing action for individuals exposed to environmental, workplace and food exposures.

Due to its interference with detoxifying enzymes in the liver, glyphosate enhances toxicity of other chemical exposures. Once a human exposure standard is supported that establishes a baseline of zero tolerance, one will have to address the effect of setting general examination requirements for the chemical glyphosate as well as the requirements for all other chemical exposures.

The proposed generic requirements would have a broader scope and may consist of the following:

1. Require initial exposure monitoring for individuals.
2. Specify the frequency of follow-up monitoring and increase the frequency, dependent upon the determination of systemic toxicological symptoms.
3. Implement specific air sampling techniques in terms of personal and/or environmental monitoring.
4. Develop procedures for individuals' observance of ambient sampling.
5. Require medical surveillance for all individuals pre and post exposure to one half the exposure limits (to be established as a true "zero" level).
6. Assess pre- and post environmental health and toxicology of route of exposure and its origins for glyphosate.

7. Establish a standard of result of the medical exam and tests conducted, as well as any conditions that require follow-up.
8. Adopt biologic exposure indices for glyphosate, its metabolites and degradation.

Collection of signatures is ongoing.

Update 6/19/2014 One week total: 32 medical professionals, 17 scientists and 102 concerned citizens. An e-mail account was set up to collect signatures and was instantly hacked. Signatures sent in the first 24 hours were lost.

Original letter published at the [Seattle Examiner](#).

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