The Agent Orange Debate
Anecdote, Science, Law & Presumption

What is the difference between scientific and medical proof, anecdotal "evidence", legal proof, and **presumption?** Understanding the differences is key to moving on in this everlasting debate.

Anecdotal accounts by veterans and their families are not evidence and are not proof. No matter how many anecdotal accounts are presented to inquiries and hearings, in books, the media and social media, and no matter how often they are told and retold, the plural of anecdote is not evidence.

Science, especially environmental science (i.e. the science of chemical pollutants such as the TCDD/dioxin component of Agent Orange), is inherently uncertain. And despite widespread belief that Vietnam veterans' exposure to toxic substances in sufficient dose over sufficient time to cause a range of diseases, disorders, disabilities and defects in veterans and their progeny has been proven, it hasn't. Proof does not hinge on one or even several studies. It hinges on years or decades of research by hundreds or even thousands of scientists until eventually a consensus is reached. That consensus has not (yet) been reached, and consensus is unlikely. At best the science is still uncertain.

In the legal arena there are basically two standards of proof. In criminal law the burden of proof requires "beyond reasonable doubt". In civil law it requires "on the balance of probabilities" which is a lower burden of proof. All of the cases brought against the chemical companies have been in civil law, and not one of them has eventually succeeded despite huge volumes of evidence produced by claimants. The burden of proof is too high, and in the USA any legal action against the chemical companies is now almost certain to fail.

In the absence of scientific and medical consensus, and in the absence of legal proof to the civil standard, governments have long relied on **presumption**.

Presumption does not rely on scientific, medical or legal proof. It is a policy device that bridges the divide between the claims of war veterans and the uncertainty of the science. It is the policy device that gives the veteran the "benefit of the doubt" and sometimes requires the "reverse onus of proof" to operate to require the government to prove the veteran wrong, rather than the veteran having to prove his (or her) case. It is a benevolent approach.

This benevolence has been present in war veterans' legislation in New Zealand, Australia and the USA since World War I. It was present in the NZ War Pensions Act 1954 although after Vietnam it wasn't always applied in accordance with the Act. However in the 1990s that benevolence was affirmed by the NZ War Pensions Appeal Board and by the NZ High Court. In Australia and in the USA veterans' administrations also failed to apply the required benevolence of their legislation after the Vietnam War.

In 1991 in the USA Congress legislated to have the benevolent approach reinforced in law. It effectively overrode the science and the law and declared **the first presumption**: that all servicemen and women who served in Vietnam, regardless of length of service (12 hours or 12 months) and regardless of occupation (infantryman or pay clerk) were deemed to have been exposed to a toxic environment in sufficient dose and over sufficient time to result in conditions to be identified by the National Academy of Sciences (NAS). Exposure was presumed, not proven.

NAS then carried out a meta-analysis of all the science worldwide. In 1993 it published its interim findings, and in 1994 its first report. It has produced ten two-yearly updates since then, the last in 2014 (actually published in 2016). The NAS Report and Updates have been the basis of presumptive conditions since 1993. Those conditions are presumed, not proven.

NAS has consistently stated across more than twenty years that there is insufficient evidence to determine whether or not Vietnam War veterans, individually or collectively, were exposed to Agent Orange. Nevertheless it was directed by the legislation to accept that exposure was proven, and it proceeded on that basis.

Note: The fact that Agent Orange was sprayed in Vietnam does not prove that veterans themselves were exposed.

Based on the first presumption of exposure, NAS has produced the second level of presumption, a list of conditions presumed to be "associated" with exposure to Agent Orange. The list is extremely benevolent, based on often tenuous "associations". But it meets the requirements of presumption and benevolence.

It has long included just one condition related to the children of veterans – spina bifida. However spina bifida was removed from the list in 2014 and there are now no birth defects on the list.

In 1985 the Evatt Royal Commission in Australia declared that Agent Orange was "not guilty" according to the civil "balance of probabilities" burden of proof. More importantly however Evatt also declared that the Australian repatriation system was guilty of not applying the presumptive and benevolent standard required by repatriation law. In 1994 the Australian Government introduced its own lists of presumptive and other conditions in the Statements of Principles (SOPs), based initially on the US NAS lists.

The New Zealand Government consistently stated that the War Pensions Act 1954 was capable of providing presumption, benevolence, benefit of the doubt, and a reverse onus of proof. And so it was, specifically in Sections 17, 18 and 19 of the Act. In the early 1990s The War Pensions Appeal Board and the High Court affirmed that presumption, benevolence, benefit of the doubt and reverse onus of proof in landmark decisions largely unnoticed by veterans. Which is not to say that the claims panels at the first level of application properly applied the Act in the first place.

Nevertheless after the agitation of 2003-2006 the New Zealand Government agreed to move from the general benevolent presumption of the War Pensions Act 1954 to the specific presumptions listed by the NAS and then, after advice, in the Australian SOPs. The Veterans Support Act 2014 uses the Australian SOPs as its presumptive base. Some knowledgeable advocates, including a former member of the War Pensions Appeal Board, opposed the removal of the existing legislation on the basis that all it needed was some updating, for veterans and the bureaucracy to better understand the Act, and for the bureaucracy to apply it as intended.

It should be noted that all current conditions accepted as related to exposure to Agent Orange are **presumptive** and not proven to scientific, medical or legal standards. It is benevolence in action. In the absence of sufficient correlation or association there are only five accepted conditions relating to the children of veterans. None of those five conditions has met the NAS hurdle to be included in its lists.

To sum up. We should not confuse proof and presumption. There is no scientific, medical or legal proof. The benevolent standard of presumption prevails in the absence of proof. Exposure is the first presumption in the absence of proof, and the accepted conditions are the second level of presumption in the absence of proof.