



How Many US Polio Survivors ARE There? Polio “Suspects”, PPS and Non-Paralytic Polio

A “Bruno Byte”

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While doing research to get a “real” number of US polio survivors in 2000, I went through the Mayo Clinic polio database. Besides paralytic and “non-paralytic” polio, there was an undiagnosed group having had mild symptoms called “polio suspects.”

“POLIO SUSPECTS” and PPS It may be possible to estimate the number of living Americans who had undiagnosed polio and thereby estimate the total number of polio survivors who had CNS (central nervous system) damage and therefore are at risk for PPS today.

As early as 1935, the Mayo Clinic’s centralized records-linkage system recorded not only cases of paralytic and nonparalytic polio, but also what were called polio “suspects,” a term used by the physicians in polio epidemic years to describe persons with an acute fever, illness suspiciously similar to polio but without paresis or evidence of central nervous system involvement from clinical history and/or cerebrospinal fluid examination. Many of these persons were family members of diagnosed polio survivors. Some may have had abortive polio and may constitute the ‘tip of the iceberg,’ since so many cases of polio never came to the attention of the family physician especially when another child had paralytic polio.

Between 1935 and 1955, for each paralytic polio patient, 0.65 polio “suspects” were recorded in the Mayo system. Applying this ratio, 158,430 Americans would be at risk for PPS in addition to the estimated 1.63 million paralytic and non-paralytic polio survivors. (from Bruno RL. Paralytic versus “non-paralytic polio:” A distinction without a difference? American Journal of Physical Medicine and Rehabilitation, 1999; 79: 4-12.)

What is more, at the height of the epidemics some hospitals were so full that if you could breath you were sent home without a polio diagnosis. And, of course, being the “great plague,” many polio survivors were not told that they had had polio as infants if their polio symptoms weren’t severe so as not to be stigmatized.

POLIO AT HOME In 5 to 20 percent of households where poliovirus attacked one family member, another was also stricken. From 1909 to 1955 more than two thousand family members were surveyed in over one thousand households in which at least one person had had polio. On average, if one child in a household became ill, he “shared” polio with one other sibling of similar age. (I say “he” because more boys contracted polio than did girls.)

Just over half of those “secondary polio cases” were paralyzed, while the others had flu-like symptoms ranging from a fever, sore throat and nausea to a stiff neck and muscle pain. Such a “minor illness” may never have been diagnosed as polio at all, or may have been called “abortive” or “nonparalytic” polio. In three-quarters of households the first case of polio was paralytic and the second “nonparalytic.”

THE BOTTOM LINE: There’s about a one-in-five chance that if you had paralytic polio, one of your brothers or sisters had “nonparalytic” polio—and may not even have known it. (from [The Polio Paradox](#)).

Paralytic vs. “Nonparalytic” Polio: Distinction without a Difference?

[Am J Phys Med Rehabil](#). 2000 Jan-Feb;79(1):4-12. Bruno, RL PhD.

Abstract: Nonparalytic polio (NPP) is commonly thought to be synonymous with “abortive polio,” in which

the poliovirus neither entered the central nervous system nor damaged neurons. Described are two epidemic illness-"The Summer Grippe" and Iceland disease-apparently caused by a low virulence but neuropathic type 2 poliovirus. Studies show that neuronal lesions in the brain and spinal cord and muscle weakness were common in NPP, and epidemiologic studies document late-onset weakness and fatigue in 14% to 42% of NPP survivors. These findings indicate that clinicians should not require a history of paralytic polio, electromyographic evidence of denervation, and new muscle weakness for the diagnosis of "Post-Polio Syndrome" but should be aware that NPP, and possibly even poliovirus-induced "minor illnesses," can be associated with acute central nervous system damage and late-onset muscle weakness and fatigue.

The Encyclopedia of Polio and Post-Polio Sequelae

contains all of [Dr. Richard Bruno's](#) articles, monographs, commentaries and "Bruno Bytes"

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