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Vaccination against multiple infectious diseases: Is this in the best interests of public health?

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Vaccination is a medical intervention that comes with a risk for some people. When adopting a strategy to prevent infectious diseases it is important to choose the preventative measure that best addresses the causal mechanisms for the disease. In the expression of infectious diseases it is known that the pathogen alone does not cause disease: it is a combination of the pathogen, environment, and genetic factors that determines expression and severity of the disease. In 1960 Macfarlane Burnet, Nobel Prize laureate for immunology, stated that genetics, nutrition, psychological and environmental factors may play a more important role in resistance to disease than the assumed benefits of artificial immunity induced by vaccination. He considered that genetic deterioration of the population may be a consequence of universal mass vaccination and he postulated that in the long term vaccination may be against the best interests of the state. The current belief that much of the burden of infectious diseases can be alleviated if every child, in every geographical location, has access to multiple vaccines, does not consider the influence of genetics and environment on the health of populations. The historical record shows that deaths and illnesses to infectious diseases were significantly reduced by the mid-twentieth century due to public health reforms – prior to the introduction of most vaccines. Since 1990 there has been a 5-fold increase in chronic illness in children in developed countries and an exponential increase in autism that correlates directly with the expansion of government vaccination programs. Is this the genetic deterioration of the population that Macfarlane Burnet predicted in 1960? Many individuals are genetically predisposed to the chronic illnesses that are increasing in the population and governments do not use morbidity to assess outcomes of vaccination programs. Consequently the deterioration of the health of populations is not being associated with the increased use of vaccines. Macfarlane Burnet might be correct: the increased use of vaccines may not be in the best interests of public health or the state.

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