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Commentary

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Economic Stakes of the Vaccination

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Vaccination: One of the Most Cost Effective Interventions

By strengthening children's health, vaccines contribute to improving cognitive abilities, physical strength and academic performance [1].

The GAVI alliance (Global Alliance for Vaccines and Immunization), an international organization created in 2000 to increase the equitable use of vaccines in low-income countries, speaks of a domino effect if a child is not vaccinated.

The global economy is affected when this domino effect affects a significant proportion of young people and reduces the productivity of a country's workforce.

Vaccination is one of the most cost-effective public health interventions and saves the most lives, including 2.5 million children each year. The average return on investment for each euro invested is €34, compared to an average of €14 in public health [2].

Vaccines as a Source of Economic Growth

The relevance of the broader benefits of vaccination is confirmed by research demonstrating the link between better health and economic growth. This research has demonstrated the importance of health interventions in boosting growth [3].

The production of wealth through improvements in health is a cyclical process in which health generates wealth and well-being, leading to better health, which in turn boosts productivity.

Gary Becker's human capital theory proposes that education and training are investments in individuals that can improve their productivity and earning potential, leading to economic growth and development [4]. Health can also be considered an intangible factor of production, like education, that can raise productivity levels.

Vaccination has contributed to 40% of the observed decline in child mortality worldwide and 52% in the African region [5]. In 2024, a child under the age of 10 has a 40% greater chance of surviving to their next birthday compared to a hypothetical scenario without historical vaccination. An increase in the probability of survival is observed even at an advanced age [4].

During the Covid crisis, the United Nations Development Program (UNDP) suggested that the post-Covid economic recovery rate would be faster in countries with higher vaccination rates, with an increase of $8 billion in global GDP for every million additional people vaccinated.

A Growing Vaccine Industry

Vaccines represent an industrial sector with strong development potential and significant economic importance. It embodies a confluence of tradition and cutting-edge technology, humans and animals, prevention and therapy, medicine and society.

The vaccine market grew at an annual rate of 6% before Covid, with sales increasing from €26.5 billion in 2016 to $33 billion in 2020. The growth rate of this market, excluding Covid, doubled from 2020 to 2024, to more than 12% per year (from $35 billion to $48 billion). The outlook, excluding Covid, is $80 billion in 2029 [6].

The prosperous future of the vaccine industry guarantees a source of dynamic economic activity, from which France could benefit.

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Economic Benefits to be Better Assessment of the Benefits

The resources used to improve the health of populations are vast but not limitless. When healthcare professionals are invited to participate in decisions for large groups of patients, the balance between resource consumption and the benefits of the intervention is crucial to consider.

Politicians are reluctant to use economic evaluations of vaccines due to the short-term approach to health budget management, which should be multi-year rather than annual.

The necessary consideration of broader economic benefits for vaccines is another characteristic to be integrated. Infections have short and long-term health and non-health consequences. The impact of vaccination is broader than that of other health technologies [7,8].

Vaccination: A Strategic Component of the Sustainability of Health Systems Worldwide

Vaccine development is part of a necessary transformation of health models. Demographic, epidemiological and technological transitions require a paradigm shift in health. From a care-centered model, health systems in all developed countries must evolve toward a global health model, making maintaining good health as strategic as care [9].

The economic and social benefits of investing in health, including vaccination, have been evaluated [10,11]. Social benefits, defined as the welfare value of good health, could reach $100 trillion by 2040 [12].

Better health would increase global GDP growth by 8% by 2040, increasing potential GDP in 2040 by $12 trillion or approximately $300 billion for France. This equates to an annual increase of 0.4 percentage point in GDP thanks to good health, given that 70% of health gains will come from prevention, including vaccination [12].

The implementation of a global approach to health risk management including public health policies focused on investment in health capital, including vaccination, allows a virtuous circle of reduced demand for care thanks to improved health, generating control of expenditure in an environment of aging population and support for economic growth.

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