



INFLUENZA VACCINATION IN SCHOOL-AGED CHILDREN

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Introduction

Should schools in the United States require children between the ages of six months to 17 years to have flu vaccination shots? Influenza is a serious disease that can lead to hospitalization and sometimes even death. According to the Center of Disease Control (CDC), every flu season varies, and an influenza infection can affect people differently. Millions of people get the flu every year, hundreds of thousands of people are hospitalized, and thousands or tens of thousands of people die from flu-related causes every year. Everyone is at risk for influenza, but the highest risk lies within children who are still developing their immune systems. However, with vaccines, this risk is easily preventable and can decrease a person's chances of acquiring the infection. As such, the CDC recommends that every person six months and older should be vaccinated annually. This is even more important for children because they attend schools where they have maximum exposure to various strains of influenza six to ten hours daily. They can easily spread and contract the disease in their school environment, specifically from children that are not vaccinated. This leads to the hypothesis that children six months to 17 years should be required to receive influenza vaccinations.

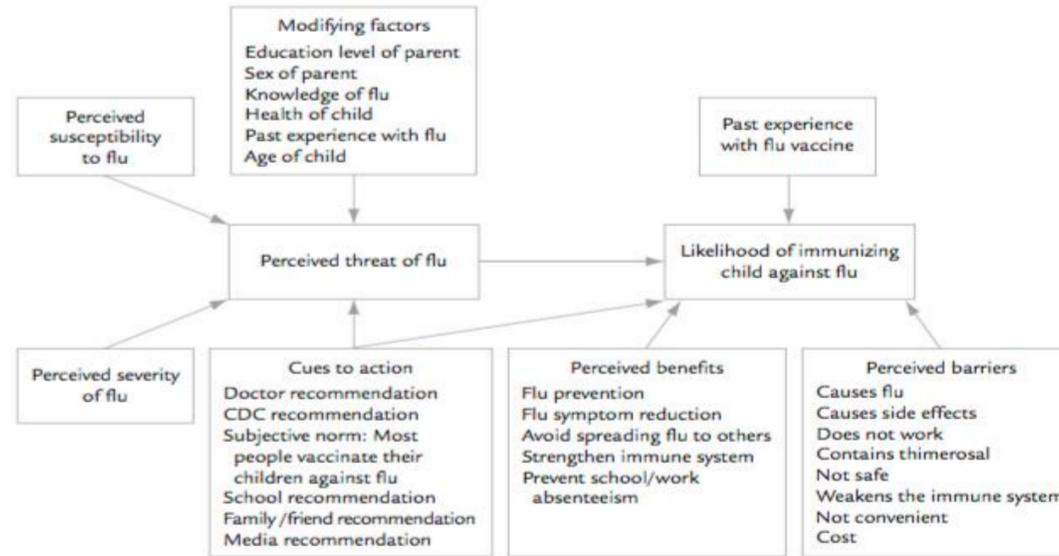


Figure 3. Conceptual model of parents' decision-making regarding vaccinating their child against influenza. Drivers are listed by frequency of selection. CDC = Centers for Disease Control and Prevention.

Implications for Practice

- Assess parental understanding of implications and reasons for vaccination.
- Educate on the importance of receiving the influenza vaccine annually.
- Inform the parent and patient of the adverse affects of the vaccination.
- Explain to parent and patient other methods of influenza prevention.



Conclusion/Further Study

Conclusion

- There is not enough information gathered to support the hypothesis that children at the ages of 6 months to 17 years be required for vaccinations of influenza.
- Need the perspective of experts for these kinds of research to help better outweigh the different variables.
- While studies show that there are health benefits to support the hypothesis, it does not prove to be cost effective as age increases.
- The cost may outweigh the benefits for those of lower socioeconomic class and those with low risk for contracting the influenza.
- It is however both cost effective and health beneficial for children ages 6 to 23 months where they have weaker immune systems.
- Instead of original hypothesis, Requiring healthcare providers to inform and clear up misconceptions about the influenza vaccine to decrease the prevalence the spread of the flu may be a future study to look at.

Further Studies

- Expert viewpoints of influenza vaccinations and thoughts in how to society can better prevent the prevalence of the flu.
- More qualitative studies on viewpoints of influenza vaccination and the reason for their beliefs in taking influenza vaccination
- Further quantitative and qualitative studies on herd immunity.
- Further qualitative studies on social media and the effects in vaccination rates.

Findings

Influenza Vaccination in Pediatric Population

- Many parents feel more compelled to get their child vaccinated when their health care provider verbally explores the topic with them
- Of the 119 parents who received the influenza vaccine stated that they would continue to vaccinate their child against influenza. Only 5% said they would not vaccinate their child
- Many parents and patients get the vaccine when it is convenient and low in cost.
- It is more cost effective when the child is between 6-23 months old, and with high risk patients with chronic illnesses to reduce hospital visits.
- Children have a higher rate of clinical visits and emergency department encounters during the flu season.
- The major drivers of vaccination were prevention of influenza (95.1%), a doctors recommendation (89.5%), and the desire to reduce influenza symptoms (83.3%).
- The average cost of a flu vaccine is \$20 per person.

Pediatric Influenza Vaccine Price List

The table below reflects the 2017-2018 influenza vaccine price list

Influenza Vaccine at	Brand/Trade Name	NDC	Packaging	CDC Cost/Dose	Private Sector Cost/Dose	Contract End Date	Manufacturer	Contract #
> 6 mo	Fluzone® Quadrivalent	49281 – 0627-15	10 dose vial	\$ 14.52	\$ 16.622	2/28/2018	Sanofi Pasteur	200-2017-92736
6 – 36 mo	Fluzone® Quadrivalent Pediatric dose	49281 – 0517-25	10 pack – 1 dose syringe	\$ 15.675	\$ 18.72	2/28/2018	Sanofi Pasteur	200-2017-92736
> 36 mo	Fluzone® Quadrivalent	49281 – 0417-50	10 pack – 1 dose syringe	\$15.675	\$ 17.97	2/28/2018	Sanofi Pasteur	200-2017-92736
		49281 – 0417-10	10 pack – 1 dose vial	\$15.675	\$17.97			
> 36 mo	Fluarix® Quadrivalent	58160 – 0907-52	10 pack – 1 dose syringe	\$14.43	\$16.82	2/28/2018	GlaxoSmithKline	200-2017-92735
> 6 mo	FluLaval Quadrivalent	19515 – 0896-11	10 dose vial	\$13.55	\$15.77	2/28/2018	GlaxoSmithKline	200-2017-92735
		19515 – 0912-52	10 pack – 1 dose syringe	\$14.43	\$16.82			
> 4 years	Flucelavax® Quadrivalent	70461 – 0201-01	10 pack – 1 dose syringe	\$15.42	\$21.22	2/28/2018	GlaxoSmithKline	200-2017-92735
		70461 – 0301-10	10 dose vial	\$14.07	\$20.12			

Study Design/Sample

Study Title	Design	Sample/ Demographics
The efficacy of live attenuated, cold-adapted, trivalent, intranasal influenza virus vaccine in children	Quantitative Study Prospective, randomized, double blind, placebo controlled, and multicenter	n= 288 Children 15-17 months Location: Mountain View, California Date: 1996-1997
Parents' decision-making regarding vaccinating their children against influenza: A web-based survey	Qualitative web-based survey	n= 500 Parents of children between 2-12 y/o Location: United States Date: 2010
Health benefits, risk, and cost-effectiveness of influenza vaccination of children	Quantitative Study	n=5000 (1000 children per subgroup Children 6 months – 17y/o Location: Massachusetts and Georgia, United States) Date: 2004-2004 Influenza seasons
The under recognized burden of influenza in young children	Quantitative Study	n= 2797 Children < 5 y/o Location: three US counties Date: October 2000 to September 2004
Parental Perspectives on influenza vaccination of children with chronic medical conditions	Mixed Study	n=183 Parents of 2-13 y/o children with high-risk medical conditions from low-income neighborhoods Location: United States Date: 2003 - 2006
Influenza vaccine efficacy in young children attending childcare: A randomized controlled trial	Mixed Study Double-blind, randomized controlled trial	n=124 Children b/w 6 to <48 months Location: Sydney, Australia Date: 2011