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Influenza Vaccination in School-aged Children

Isabella Jao
Dominican University of California

Chloe McFadin
Dominican University of California

Nica Nuguid
Dominican University of California

Dan Recinto
Dominican University of California

Kaitlin Van Ryn
Dominican University of California

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Dan □ecinto□□S.□□aitlin □an□yn□□S.
□□□S □□□□.□tau□ht by Dr. □livia □atolico

□ntro□uction

Should schools in the □nited States re□uire children bet□een the ages of si□ months to 17 years to ha□e flu □accination shots□ Influenza is a serious disease that can lead to hospitalization and sometimes e□en death. □ccording to the Center of Disease Control (CDC), e□ery flu season □aries, and an influenza infection can affect people differently. Millions of people get the flu e□ery year, hundreds of thousands of people are hospitalized, and thousands or tens of thousands of people die from flu-related causes e□ery year. □□eryone is at ris□ for influenza, but the highest ris□ lies □ithin children □ho are still de□eloping their immune systems. □o□e□er, □ith □accines, this risk is easily preventable and can decrease a person's chances of ac□uiring the infection. □s such, the CDC recommends that e□ery person si□ months and older should be □accinated annually. This is e□en more important for children because they attend schools □here they ha□e ma□imum e□posure to □arious strains of influenza si□ to ten hours daily. They can easily spread and contract the disease in their school en□ironment, specifically from children that are not □accinated. This leads to the hypothesis that children si□ months to 17 years should be re□uired to recei□e influenza □accinations.

Stu□y Desi□n Sample

Study Title	Design	Sample/ Demographics
The efficacy of li□e attenuated, cold-adapted, tri□alent, intranasal influenza □irus □accine in children	□uantitati□e Study Prospecti□e, randomized, double blind, placebo controlled, and multicenter	n□ 2□□ Children 1□-17 months □ocation: Mountain Vie□, California Date: 1□□6-1□□7
Parents' decision-ma□ing regarding □accinating their children against influenza: □ □eb-based sur□ey	□ualitati□e □eb-based sur□ey	n□ □00 Parents of children bet□een 2-12 y/o □ocation: □nited States Date: 2010
□ealth benefits, ris□, and cost-effecti□eness of influenza □accination of children	□uantitati□e Study	n□□000 (1000 children per subgroup Children 6 months – 17y/o □ocation: Massachusetts and □eorgia, □nited States) Date: 200□-200□ Influenza seasons
The under recognized burden of influenza in young children	□uantitati□e Study	n□ 27□7 Children □ □y/o □ocation: three □S counties Date: □ctober 2000 to September 200□
Parental Perspecti□es on influenza □accination of children □ith chronic medical conditions	Mi□ed Study	n□1□□ Parents of 2-1□y/o children □ith high-ris□ medical conditions from lo□-income neighborhoods □ocation: □nited States Date: 200□- 2006
Influenza □accine efficacy in young children attending childcare: □ randomized controlled trial	Mi□ed Study Double-blind, randomized controlled trial	n□12□ Children b/□ 6 to □□□ months □ocation: Sydney, □ustralia Date: 2011

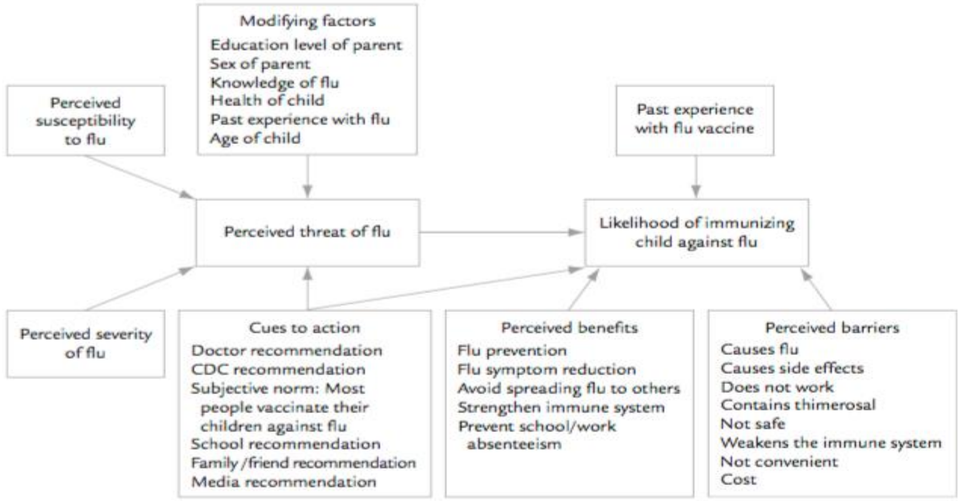

Figure 3. Conceptual model of parents' decision-making regarding vaccinating their child against influenza. Drivers are listed by frequency of selection. CDC = Centers for Disease Control and Prevention.

□in□in□s

□nfluen□a □accination in □e□iatric □opulation

- Many parents feel more compelled to get their child □accinated □hen their health care pro□ider □erbally e□plores the topic □ith them
- □f the 11□ parents □ho recei□ed the influenza □accine stated that they □ould continue to □accinate their child against influenza. □nly □□ said they □ould not □accinate their child
- Many parents and patients get the □accine □hen it is con□enient and lo□ in cost.
- It is more cost effecti□e □hen the child is bet□een 6-2□ months old, and □ith high ris□ patients □ith chronic illnesses to reduce hospital □isits.
- Children ha□e a higher rate of clinical □isits and emergency department encounters during the flu season.
- The major dri□ers of □accination □ere pre□ention of influenza (□□.1□), a doctors recommendation (□□.□□), and the desire to reduce influenza symptoms (□□.□□).
- The a□erage cost of a flu □accine is □20 per person.

□e□iatric □nfluen□a □accine □rice List

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

□nfluen□a □accine at	□ran□□ra□e □ame	□D□	□acka□in□	□D□ □ost□Dose	□rivate Sector □ost□Dose	□ontract □n□ Date	□anufacturer	□ontract □
□ □mo	□lu□one® □ua□rivalent	□□□□□– □□□□□□□	10 dose □ial	□1□.□2	□16.622	2/2□/201□	Sanofi Pasteur	200-2017-□27□6
□– □□mo	□lu□one® □ua□rivalent □e□iatric □ose	□□□□□– □□□□□□□	10 pac□– 1 dose syringe	□1□.67□	□1□.72	2/2□/201□	Sanofi Pasteur	200-2017-□27□6
□ □□mo	□lu□one® □ua□rivalent	□□□□□– □□□□□□□	10 pac□– 1 dose syringe	□1□.67□	□17.□7	2/2□/201□	Sanofi Pasteur	200-2017-□27□6
		□□□□□– □□□□□□□	10 pac□– 1 dose □ial	□1□.67□	□17.□7			
□ □□mo	□luari□® □ua□rivalent	□□□□□– □□□□□□□	10 pac□– 1 dose syringe	□1□.□□	□16.□2	2/2□/201□	□la□oSmithKline	200-2017-□27□□
□ □mo	□luLaval □ua□rivalent	□□□□□– □□□□□□□	10 dose □ial	□1□.□□	□1□.77	2/2□/201□	□la□oSmithKline	200-2017-□27□□
		□□□□□– □□□□□□□	10 pac□– 1 dose syringe	□1□.□□	□16.□2			
□ □years	□lucelava□® □ua□rivalent	□□□□□– □□□□□□□	10 pac□– 1 dose syringe	□1□.□2	□21.22	2/2□/201□	□la□oSmithKline	200-2017-□27□□
		□□□□□– □□□□□□□	10 dose □ial	□1□.07	□20.12			

□mplications for □ractice

- □ssess parental understanding of implications and reasons for □accination.
- □ducate on the importance of recei□ing the influenza □accine annually.
- Inform the parent and patient of the ad□erse affects of the □accination.
- □□plain to parent and patient other methods of influenza pre□ention.

□onclusion□urther Stu□y

□onclusion

- There is not enough information gathered to support the hypothesis that children at the ages of 6 months to 17 years be re□uired for □accinations of influenza.
- Need the perspecti□e of e□perts for these □inds of research to help better out□eigh the different □ariables.
- □ hile studies sho□ that there are health benefits to support the hypothesis, it does not pro□e to be cost effecti□e as age increases.
- The cost may out□eigh the benefits for those of lo□er socioeconomic class and those □ith lo□ ris□ for contracting the influenza.
- It is ho□e□er both cost effecti□e and health beneficial for children ages 6 to 2□ months □here they ha□e □ea□er immune systems.
- Instead of original hypothesis, Re□uiring healthcare pro□iders to inform and clear up misconceptions about the influenza □accine to decrease the pre□alence the spread of the flu may be a future study to loo□ at.

Further Studies

- □□pert □ie□points of influenza □accinations and thoughts in ho□ to society can better pre□ent the pre□alence of the flu.
- More □ualitati□e studies on □ie□points of influenza □accination and the reason for their beliefs in ta□ing influenza □accination
- Further □uantitati□e and □ualitati□e studies on herd immunity.
- Further □ualitati□e studies on social media and the effects in □accination rates.