Policy Issue Paper: Implementation of a School-Based Influenza Vaccination Program

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The purpose of this paper is to review the policy problem of establishing and implementing a school-based influenza vaccination program in the state of Texas.

**Policy Problem**

There is approximately 5% to 20% of United State residents’ contract influenza each year. Of these, 200,000 are hospitalized because of influenza-related complications and 36,000 die as a result of complications of influenza (King et al., 2005, p. 868). Rates of serious illness and death are highest among persons >65 years of age and persons of any age who have medical conditions that place them at increased risk for complications of influenza (King et al., 2005). Influenza-related costs are estimated to be between 12 and 18 billion dollars annually, including medical care utilization, medications, school-days lost and workdays (Sullivan, 1996). Annual vaccination is the principal means of preventing influenza, and is recommended for all children aged 6 months through 18 years of age and those at high risk of complications (Weycker, 2005, p. 1284); CDC [ACIP], 2009).

**Influenza and pediatric mortality**

This past year with the pandemic H1N1 influenza outbreak in the United States there were many reported pediatric deaths. There were 269 reported pediatric deaths (Center for Disease Control and Prevention, 2010). Of the 269 reported pediatric deaths that occurred since August 30, 2009, a total of 48 (18%) were among children aged <2 years, 30 (11%) were among children aged 2-4 years, 100 (37%) were among children aged 5-11 years, and 91 (34%) were among children aged 12-17 years. A medical history was reported for 263 of the 269 decedents (98%). Of these 263 decedents, 182 (69%) had one or more medical conditions associated with an increased risk for influenza-related complications (CDC, 2010). In California during the
2003-2004 and 2004-2005 influenza seasons 51% of children with laboratory-confirmed influenza who died and 40% of those who required admission to an intensive care unit had no underlying medical condition. This data suggests that although children with risk factors for influenza complications are at higher risk for death, the majority of the pediatric deaths occurred among children with no known high-risk conditions (CDC, 2009).

Even though the reported deaths are not in the thousands or millions of the total number of deaths from the 2009-2010 reported influenza outbreak it is significant that children experience a higher rate of influenza infections and that they shed greater quantities of influenza viruses for longer periods of time, compared to adults (Fox, 1982). School-aged children are important vectors for the spread of influenza within their households (Neuzil, Hohlbein, & Zhu, 2002). Influenza-related illness and school absenteeism have been observed to peak among schoolchildren before the occurrence of influenza-related illnesses and industrial absenteeism among adults in the same community (Glezen & Couch, 1978).

**Influenza vaccinations for School-age Children**

Pediatric deaths as reported during influenza outbreaks and the notion that school-aged children are vectors for the spread of influenza within their household are strong rationales for the importance of vaccinating school-aged children to control the outbreaks within the communities. Vaccinating school-aged children might be an effective method of interrupting the chain of transmission and thereby reducing influenza-related morbidity in households and the entire community (King, 2005, p. 868). A study by Monto, Davenport, Napier, & Francis (1970), showed that by vaccinating school-age children with inactivated influenza vaccine in Michigan was associated with a reduction of influenza-like illness in the community. On the contrary, a recent study showed that by eliminating vaccinations for school-aged children, this led to a very
serious consequence on the community, especially among the elderly. In Japan, the termination of a policy of influenza vaccination of school-children was found to have an increase in influenza-related illness and overall mortality rates among the elderly (Reichert, 2001).

Currently most children are immunized in outpatient clinics but a recent study showed that the vaccination rate was only a 30% rate and with the use of a school-based influenza program higher rates can be achieved. According to Gaglani (2008), “expansion of the school-based immunization trial from elementary to middle and high schools improved influenza immunization coverage in school-aged children to 40%”(). It is feasible to capture the majority of school-aged children at their school rather than have a missed opportunity event at an outpatient clinic.

**School-based influenza immunization programs**

School-based influenza immunization programs have had a significant impact on reducing the transmission of the influenza viruses and influenza-related illnesses. King (2005) studied the feasibility of a school-based influenza immunization program and examined the impact on influenza-related morbidity in the households of target school pupils. It was found that there were significant reductions in flu-related illness outcomes in households of pupils attending an intervention school compared to a non-interventional school. A follow-up study was conducted during the 2004 flu season which targeted 2,717 healthy students over age five and given the nasal-spray influenza vaccine. There were 24 public elementary schools in Maryland, Texas, and Minnesota and four private schools in the state of Washington. The schools were grouped into clusters with respect to geography, ethnicity and socioeconomic status. In each of the 11 clusters, one school was selected as the intervention school and healthy students over the age of five were offered nasal-spray influenza vaccines. The other participating schools were
designated as control schools. The research study results found that compared to the group with non-vaccinated school children; there was a 23 to 36 percent relative reduction in adult and child influenza-like illnesses in the intervention school households (King, 2005). Therefore school-based immunization programs are an effective way to vaccinate large numbers of school children, and once they are protected, so are their families and their communities.

School-located influenza immunization clinics have gone a long way toward easing the burden and improving influenza vaccination rates, which historically have been low among individuals at high risk for influenza-related complications (CDC, 2008). In 2006, for example, little more than one third of the school-age children for whom flu vaccine was recommended actually were immunized (CDC, 2007). “School-located vaccinations clinics could go a long way toward improving the rates of pediatric influenza immunization and enhancing the pandemic preparedness of communities” (Li et al., 2009, p. 18s). Influenza outbreaks have a significant impact on the pediatric population as well as the entire community. By controlling the impact of the influenza outbreak in the pediatric population through the school-based influenza vaccinations programs this strategic and economic intervention can reduce the impact of the influenza outbreaks in the communities. Vaccination of 20% of children aged 6 months to 18 years would reduce the total number of influenza cases in the United States by 46%, while 80% coverage would reduce the number of cases by 91%. Influenza-related economic costs and mortality would fall dramatically (Weycker, 2005). This has lead to a course of events that has the Texas legislators and health care professionals making positive steps to improve the influenza vaccination rates in school children in the state of Texas.

Bills Filed in the Texas Legislature

House Bill 506

S.B. 424- (identical bill) Sponsor: Sen. Leticia Van de Putte (District 26- Bexar)

**Background**

**Social**

Lower immunization rate of children are “often associated with economic factors, limited access to health care, lack of healthcare services at hours convenient for working parents, inadequate education regarding the importance of immunizations and cultural or religious prohibitions” (Ball, Bindler, & Cowen, 2010, p. 626). Parental beliefs and attitudes also can serve as a barrier to immunizations. Parents frequently have concerns about the safety of the influenza vaccine and often do not perceive their child to be at risk (Verani, , Irigoyen, Chen, & Chimkin, 2007). Social implications of the impact of influenza infection and related illness can trigger absenteeism in the workplace, disruption of production and a shift toward costly procedures. It can also affect tourism, retail sales, mass transportation hotels and restaurants (Verani et al, 2007).

**Economic**

The costs of influenza vaccinations for school-aged children nationally can be very significant. Yoo, Szilagyi, Humiston, Rand, & Albertin (2009) conducted a study to estimate nationally representative pediatric practices’ costs of providing influenza vaccination during the 2006-2007 seasons when implementing universal influenza vaccination for United States children aged 6 months to 18 years. This study found that among all respondents, the median total cost per vaccination was $28.62 (interquartile range: $18.67- $45.28). The median
component costs were as follows: clinical personnel labor costs, $2.01; nonclinical personal labor costs, $7.96; all other overhead costs, $10.43. Vaccine purchase costs averaged $8.22. Smaller practices and urban practices had higher costs than larger or suburban practices. With the assumption of vaccine administration reimbursement for all Vaccines for Children (VFC)-eligible children at the current Medicaid median of $8.40, the financial loss across all US pediatric practices through delivery of VFC vaccines would be $98 million if one third of children receive influenza vaccines (Yoo et al., 2009).

At the state level, funding for providing influenza vaccinations for school based programs were analyzed and proposed sources were discussed in the H.B. 506. (H.B.506 A Bill to be Entitled An Act, 2009), the Department of State Health Services and the Texas Education Agency may seek, receive, and spend money received through an appropriation, grant, donation, or reimbursement from any public or private source to implement the school-based influenza for vaccination pilot program. The estimated two-year net impact to general revenue relates funds for HB 506, as introduced; a negative impact of ($1,777,473) through the biennium ending August 31, 2011. The bill would make no appropriation but could provide the legal basis for an appropriation of funds to implement the provisions of the bill. The Texas Education Agency assumes any cost can be absorbed within existing resources. The Department of State health Service estimates there will be 113,245 students in the pilot, based on the largest districts meeting the criteria for each of the four sets of parameters. DSHS assumes 5% of the total populations will not participate in the pilot leaving 107,583 students who will participate. Of the 107,583 students, 15,932 will rely on state funding for vaccinations. The estimated vaccine cost for this group is $179,869 in General Revenue. The projected total cost for administration and
vaccines is $1,777,473 in General Revenue and $1,034,739 in Federal Funds ("Texas Legislature Online", 2009).

**Ethical**

The ethical factors of autonomy, beneficence, nonmaleficence and distributive justice are the primary concern for establishing and implementing a school-based influenza vaccination program. Autonomy is an ethical principle that “includes capacities of self-governance such as understanding, reasoning, deliberating, managing, and independent choosing” (Beauchamp & Childress, 2009, p. 100). Children are not capable of being autonomous because “children cannot weigh risks and benefits, compare alternatives, or appreciate the long-term consequences of choices, they are incapable of making informed decisions” (Lo, 2009, p. 267). Informed consent is “an individual’s autonomous authorization of a medical intervention” (Beauchamp & Childress, 2009, p. 119). All children should have an informed consent signed by their parents before an influenza vaccine is administered. The principles of beneficence “requires taking action by helping, preventing harm, removing harm and promoting good” (Beauchamp & Childress, 2009, p. 151) A health care provider that gives a child an influenza vaccine is which is doing something good for the child’s health and preventing influenza related illnesses. The concept of preventing harm is achieved by explaining the risks and benefits of an influenza vaccination to the child and the parents. The “principle of nonmaleficence imposes an obligation not to inflict harm on others” (Beauchamp & Childress, 2009, p. 149). The concept to do no harm could possibly occur if a child receives a vaccine and has an allergic reaction and possibly dies from the injection. It is very important that children be screened for potential allergic reactions to the vaccine. If a child receives an influenza vaccine and then develops a vaccine-related illness, it is very important that the parents are re-informed about the Vaccine Injury act
and that monetary reimbursement is available. Distributive Justice is another ethical concern with the vaccination program because it is important that all economic groups benefit from the program. The delivery of the program and its services should be designed to assist school-age children in all classes.

**Political/Legal**

Some of the legal issues that surround vaccinations are international maldistribution of the influenza vaccines, legal consent from parents or legal guardians, liability protection for manufacturers and fair compensation for patients (Gostin, 2009). President Obama “plans to spend a miniscule $350 million of swine flu resources for global health and child survival, and two-thirds of that sum will go to surveillance, which benefits rich countries more than the poor” (Gostin, 2009, p. 10). The crisis of vaccine shortages can lead to “the maldistribution of vaccines in the face of a global health crisis will widen the already large health gap between rich and poor” (Gostin, 2009, p. 10). According to Gostin (2009) “should the international community, and rich countries pay attention to the most disadvantaged and it is politically tempting to hoard vaccines for American citizens but the urgent needs of the world’s poor should not be ignored “(Gostin, 2009, p. 10). It is important to consider the significance of establishing an influenza vaccination program for schoolchildren and the shift or redistribution of vaccine resources especially in a crisis situation that can exists due to a worldwide shortage of available influenza vaccinations.

Legal consent would need to be obtained from parents or legal guardians in order for the child to receive the influenza vaccination. Additional sources of vaccine information must be given to parents by the law (National Childhood Vaccine Injury Act, 1986). The document that provides vaccine information is the vaccine information statement (VIS) and is given for a
particular vaccine. The VIS document is provided by the Center for Disease Control and Prevention that explains to vaccine recipients, their parents, or their legal representatives both the risks and benefits of a vaccine. The VIS document includes information about vaccine injury compensation and filing a Vaccine Adverse Event Reporting System (VAERS) form. Federal law requires that VIS documents be handed out whenever (before each dose) certain vaccinations are given. It is available in multiple languages. Health care providers are required to fully inform families of the risks and benefits of the vaccine. The health care provider should answer questions and the VIS should be updated and current. Parents need to be informed about local or national computerized registries and record tracking systems as it relates to their child’s medical information (Hockenberry & Wilson, 2009).

**Stakeholders**

Stakeholders in favor of implementing and establishing an influenza vaccination school based program are school-aged children and their parents or legal guardians, the taxpayers, the government of Texas (governor, targeted members of the State Senate and the House of Representatives); pharmaceutical companies, Texas Medicaid program. Health care providers are also considered stakeholders: Texas Pediatric Society; the Texas Academy of Family Physicians, Texas chapters of NAPNAP, Texas Nurse Practitioners, school nurses and nurse practitioners. Stakeholders also include the national and state organizations (i.e Centers for Disease Control and Prevention [CDC], and Society of Healthcare Epidemiologist of America [SHEA]. Additional stakeholders can include are consumer groups; the state Medicaid medical director, each local health department that serves the geographic area in which a participating school district is located. Also members of the Texas Immunization Stakeholder Working group, the department of State Health Services and the Texas Education Agency. Educators,
superintendents of the school districts, school board members, and principals of the respective schools.

**Issue Statement**

How should a school-based influenza vaccination program be established and implemented in the state of Texas so that it works efficiently and is fair to all?

**Policy Goals/Options**

**Goals and Objectives**

1. Implement the school-based influenza vaccination pilot program in the school districts selected for the 2009-2010 school year.

2. Collect all relevant data related to the program during the 2009-2010 school year.

3. Submit a jointly written report on the implementation and results of the school-based influenza vaccination pilot program that includes: (1) an analysis of the costs and benefits of implementing the school-based influenza vaccination pilot program in each school district listed but subsection (a) of the H.B. No. 506. (2) identification of barriers to implementing the pilot program and recommendations for removing those barriers; (3) a projection of the fiscal impact of implementing a statewide school-based influenza vaccination program and (4) an analysis of the pilot program’s impact on private practice physicians who administer influenza vaccinations in this state.

**Policy Options**

Policy options and alternatives for establishing and implementing of a school-based influenza vaccination pilot program include the following:

1. Do nothing option: No school-based influenza vaccination programs in Texas
2. Incremental Change Option: Pilot Program of School-based influenza vaccination program in selected schools

3. Major change option: Offer school-based influenza vaccination programs to all school-aged children in the state of Texas

Evaluation of Options

Evaluation Criteria

1. Likelihood of ongoing funding
2. Ability to meet current and future demand
3. Political feasibility

Analysis of Policy Alternatives

Option 1: Do nothing option

Criterion 1: Likelihood of ongoing funding: This criterion looks at funding sources for implementing a school-based influenza vaccination program

Pro: Title XIX of the Social Security Act is a Federal/State entitlement program that pays for medical assistance for certain individuals and families with low incomes and resources. The Medicaid program allows considerable flexibility within the States’ Medicaid plan. A State’s Medicaid program must offer medical assistance for certain basic services to most categorically needy populations. Vaccinations are a required service under the Medicaid program (Longest, 2006). Therefore, the funding stream will be ongoing, unless the law is changed.

Con: The passage of the Health care reform bill was passed this year in 2010. The cost of health care continued to escalate and threaten to affect the GNP of the United States. Insurance premiums are expected to increase at least 20-30% this year alone. Many people in the United States are unemployed. The unemployment rate is approximately 10% unemployment in the
United States and therefore there is a decrease in Social security tax revenue. Major policy changes may occur over time due to decrease social security tax revenue. The health care reform bill of 2010 invested in pay-for-performance, quality outcomes, and evidence based medicine to direct federal expenditures.

Criterion 2: Ability to meet current and future demands. The criterion evaluates the ability of a school-based influenza vaccination program’s ability to meet the current and future preparedness for influenza outbreaks.

Pro: The vaccination program that is available to children has a 30% vaccination rate.

Con: The current vaccination rate of 30% has not made a significant impact of reducing the influenza virus and influenza related illness.

Criterion 3: Political feasibility. The criterion of political feasibility looks at the state of Texas’s ability to establish and implement a school-based influenza vaccination program.

Pro: There are many stakeholders involved in the pilot program of a school-based influenza vaccination program. The stakeholders consists of state and local governments, health care providers, state and national organizations, consumer groups, school districts and members of the districts school board, principals, teachers and school staff.

Con: Due to projected state budget shortages, there may be a reduction in the amount of children who are insured through the state Medicaid program. These children will not have the resources to be vaccinated.

**Option 2: Incremental Change Option**

Criterion 1: Likelihood of ongoing funding: This criterion looks at funding sources for implementing of a school-based influenza vaccination program
Pro: Title XIX of the Social Security Act is a Federal/State entitlement program that pays for medical assistance for certain individuals and families with low incomes and resources. The Medicaid program allows considerable flexibility within the States’ Medicaid plan. A State’s Medicaid program must offer medical assistance for certain basic services to most categorically needy populations. Vaccinations are a required service under the Medicaid program (Longest, 2006). Therefore the funding stream will be ongoing, unless the law is changed.

Con: The pilot schools that are selected for the influenza vaccination program are limited and may not be able to visualize a significant economic impact on the communities. If more schools were targeted then this would provide convincing data that the program does help reduce the influenza outbreaks and influenza related illness.

Criterion 2: Ability to meet current and future demands. The criterion looks at the ability of a school-based influenza vaccination program’s ability to meet the current and future preparedness for influenza outbreaks.

Pro: The pilot school-based influenza program is a good attempt to begin to address the current demand of increasing the vaccination rates in school age children. The current rate of vaccinations is 30% and therefore with the pilot program there should be even higher rates of vaccinations among school age children in the selected schools.

Con: The current pilot school-based influenza programs is targeted for four schools in the state of Texas. This does not meet the future demands of future influenza outbreaks nor preparedness for a pandemic situation.

Criterion 3: Political feasibility. The criterion of political feasibility looks at the state of Texas’s ability to establish and implement a school-based influenza vaccination program.
Pro: Two out of the four schools selected are from school districts with a large population of more than 50,000 and at least 85 percent economically disadvantaged. The other two schools that are being considered have a student population that is at least 90 percent economically disadvantaged and located in a county with a population of 50,000 or less. Therefore the ability to compare between urban and rural areas makes this pilot program politically feasible.

Con: There are many students as well as schools that will not be participating in the influenza vaccination school-based program. This may seem unwise politically especially during the influenza outbreak 2009-2010 because more people were infected with influenza and required hospitalizations. Not having the program available for all school-age children may backfire politically.

Option 3: Major change option

Criterion 1: Likelihood of ongoing funding: This criterion looks at funding sources for implementing a school-based influenza vaccination program

Pro: Title XIX of the Social Security Act is a Federal/State entitlement program that pays for medical assistance for certain individuals and families with low incomes and resources. The Medicaid program allows considerable flexibility within the states’ Medicaid plan. A state’s Medicaid program must offer medical assistance for certain basic services to most categorically needy populations. Vaccinations are a required service under the Medicaid program (Longest, 2006). Therefore, the funding stream will be ongoing, unless the law is changed.

Con: Without data from a pilot program it may be difficult to predict the exact amount of costs for a statewide program. The costs and benefits of a state-wide influenza vaccination program have not been established in the state of Texas. There is a lack of data to support the impact of the state-wide influenza vaccination school-based program and its reduction and
control of influenza outbreaks. Hawaii has conducted a statewide influenza vaccination program but the costs and benefits have yet to be determined.

Criterion 2: Ability to meet current and future demands. The criterion looks at the ability of a school-based influenza vaccination program’s ability to meet the current and future preparedness for influenza outbreaks.

Pro: School-located influenza vaccination clinics have shown considerable success. In one study that included 28 schools in four states during the 2004-2005 influenza season, absentee rates for flu-like illnesses were far lower among children in the schools with an on-site vaccination program compared with children in the control-group schools (King et al., 2005). Hawaii conducted a statewide influenza vaccination initiative in schools for the first time in 2007-2008, the most extensive school-located program anywhere and vaccinated more than 60,000 students (about 40% of the state’s children aged 5 to 13 years) as well as staff and teachers. The initiative’s impact has not yet been assessed fully. The program also improved the state’s preparedness for possible mass vaccination of schoolchildren in the event of an influenza pandemic (Effler, 2008).

Con: There may be parents who do not wish for their child to participate in the school-based influenza program and the student may succumb to the illnesses associated with influenza and require hospitalization.

Criterion 3: Political feasibility. The criterion of political feasibility looks at the state of Texas’s ability to establish and implement a school-based influenza vaccination program.

Pro: Hawaii conducted a statewide influenza vaccination initiative in schools for the first time in 2007-2008, the most extensive school-located program anywhere and vaccinated more than 60,000 students (about 40% of the state’s children aged 5 to 13 years) as well as staff and
teachers. The initiative’s impact has not yet been assessed fully. The program also improved the state’s preparedness for possible mass vaccination of school children in the event of an influenza pandemic (Effler, 2008). There have not been any major problems with this initiative in Hawaii and the majority of parents, teachers and school staff had not been subjected to influenza outbreaks in their community. This could be a role model for the state of Texas and produce a positive effect on the economy because of no absenteeism or hospitalization.

Con: It may not prove to work efficiently for all the schools in Texas and therefore may create confusion or frustration with the state’s children and their parents.

**Comparison of alternatives via Scorecard**

Table 1

Scorecard on influenza vaccination school based programs in Texas

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Option 1: Do nothing option</th>
<th>Option 2: Incremental Change Option: Pilot</th>
<th>Option 3: Major change option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood of ongoing funding</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ability to meet current and future demand</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Political Feasibility</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>2+/1-</td>
<td>2+/1-</td>
<td>3+/0-</td>
</tr>
<tr>
<td>Score for Each alternative</td>
<td>1+</td>
<td>1+</td>
<td>3+</td>
</tr>
</tbody>
</table>
Recommend Solutions

Analysis and comparison of the three policy alternatives as shown in Table 1 on the criteria and alternatives scorecard reveals a high score of three for the major change option-establishing and implementing school-based influenza vaccinations programs in all the school in Texas. The strengths for a major change option was supported by positive scores for the likelihood for ongoing funding, the ability to meet current and future demands and political feasibility. Options 1 and 2 revealed a tied score of one. Although superficially it appears that the options are equal, in reality the option 2 is a stronger contender because there is data to support the likelihood that implementing a school-based influenza vaccination program has a significant impact in controlling influenza outbreaks and establishes a mechanism for the state to deal with a pandemic situation.

A rationale exits for the establishment of school-located influenza immunization clinics. Children are the most vulnerable group because they are at higher risk to acquire. School children also play a pivotal role in the transmission of the disease, and the high rates of absenteeism that result. School-located clinics could help improve vaccination coverage rates among those children with chronic conditions for whom influenza vaccine as long been
recommended. Such clinics also have the potential to enhance communities’ pandemic preparedness (Li et al., 2009).
References


Gaglani, M. (2008). Vaccine Research. In M. Gaglani (Chair), *School-Based Immunizations*. Symposium conducted at the National Foundation for Infectious Diseases, Washington, DC.


Infectious Disease, 122, 889-896.


Appendix A

Talking Points

Issue: School Based influenza vaccination programs

The state of Texas believes that all school-age children, families and their communities should be protected against the influenza virus and influence-related illnesses.

Why is this important?

- School children have a very high rate of flu illness, exceeding 10% in most years
- Influenza outbreaks might be prevented or the severity of illness lessened if a greater number of school-aged children are immunized
- Children are a high risk to transmit the influenza virus to their household and community
- Although children with risk factor for influenza complications are at higher risk for death, the majority of pediatric deaths occur among children with no known high-risk conditions.
- The Center for Disease Control and Prevention estimates that a mean of 200,000 excess hospitalizations occur and 36,000 Americans die every year because of influenza and its complication.
- Influenza kills more Americans than does any other vaccine-preventable disease
- In 2008, the Advisory Committee on Immunization Practices (ACIP) of the Center for Disease Control and Prevention expanded its recommendations for annual influenza vaccination to include all children aged 6 months through 18 years.

Who will benefit?

- By vaccinating our school children, there will be a significant reduction in the outbreak of the influenza virus in our communities.
• Taxpayers will benefit because vaccination costs were lower in mass vaccination settings than in scheduled doctor’s office visits
Appendix B

Briefing Paper

The importance of school-based influenza programs for the state of Texas

To: Texas legislators, House of Representatives and State Senators

From: Diane Mosqueda, RNc, MSN, FNP-c

Re: The importance of establishing and implementing an influenza vaccination school-based program

The Issue

There is approximately 5% to 20% of United State residents’ contract influenza each year. Of these, 200,000 are hospitalized because of influenza-related complications and 36,000 die as a result of complications of influenza (King et al., 2005, p. 868). Rates of serious illness and death are highest among persons >65 years of age and persons of any age who have medical conditions that place them at increased risk for complications of influenza (King et al., 2005). Influenza-related costs are estimated to be between 21 and 18 billion dollars annually, including medical care utilization, medications, school-days lost and workdays (Sullivan, 1996). Annual vaccination is the principal means of preventing influenza, and is recommended for all children aged 6 months through 18 years of age and those at high risk of complications (Weycker, 2005, p. 1284) (CDC (ACIP), 2009).

Background

- School children have a very high rate of flu illness, exceeding 10% in most years
- Influenza outbreaks might be prevented or the severity of illness lessened if a greater number of school-aged children are immunized
- Children are a high risk to transmit the influenza virus to their household and community
• Although children with risk factor for influenza complications are at higher risk for death, the majority of pediatric deaths occur among children with no known high-risk conditions.

• The Center for Disease Control and Prevention estimates that a mean of 200,000 excess hospitalizations occur and 36,000 Americans die every year because of influenza and its complication.

• Influenza kills more Americans than does any other vaccine-preventable disease

• In 2008, the Advisory Committee on Immunization Practices (ACIP) of the Center for Disease Control and Prevention expanded its recommendations for annual influenza vaccination to include all children aged 6 months through 18 years.

• Vaccination of 20% of children aged 6 months to 18 years would reduce the total number of influenza cases in the United States by 46%, while 80% coverage would reduce the number of cases by 91%. Influenza-related economic costs and mortality would fall dramatically

Alternatives

1. Do nothing option

   a. Advantages

      There would not be any additional tax increases for the taxpayer. The resources for administering vaccinations would remain the same. Outpatient clinics vaccinate approximately 30% of the school age children in the state of Texas.

   b. Disadvantage

      Data from Japan showed that by vaccinating school-children against influenza can protect other segments of the population. From 1962-1987, most Japanese
schoolchildren were immunized against influenza each year. During that time, excess mortality due to pneumonia and influenza during the winter (among the elderly) dropped sharply, but when the immunization program was discontinued, the excess mortality rates rose once again.

2. Incremental change option
   a. Advantage
      
      The pilot study of involving 4 school districts which target a student population of at least 85% economically disadvantaged and located in population of 600,000 or more can have an impact on these communities against influenza related illness and morbidity. The pilot study can gather significant data such as providing an analysis of the costs and benefits of implementing the school-based influenza vaccination pilot program. The pilot study can determine the barriers to implement the school-based influenza vaccination pilot program.

   b. Disadvantage
      
      Targeted only 4 school based programs is very limiting and will not have the impact needed to have control over pandemic outbreaks of the influenza virus within the state of Texas

3. Major change option
   a. Advantage
      
      School-located influenza vaccination clinics have shown considerable success. In one study that included 28 school in four states during the 2004-2005 influenza season, absentee rates for flu-like illnesses were far lower among children in the
schools with an on-site vaccination program compared with children in the control-group schools (King et al., 2005).

Hawaii conducted a statewide influenza vaccination initiative in schools for the first time in 2007-2008, the most extensive school-located program anywhere and vaccinated more than 60,000 students (about 40% of the state’s children aged 5 to 13 years) as well as staff and teachers. The indicative’s impact has not yet been assessed fully. The program also improved the state’s preparedness for possible mass vaccination of schoolchildren in the event of an influenza pandemic (Effler, 2008).

b. Disadvantage

The costs and benefits of a state-wide influenza vaccination program have not been established in the state of Texas. There is insufficient data to support the impact of the state-wide influenza vaccination school-based program and its reduction and control of influenza outbreaks. Hawaii has conducted a statewide influenza vaccination program but the costs and benefits have yet to be determined.

Recommendations

The pilot program of establishing and implementing an influenza vaccination school-based program is the best alternative to reduce the outbreak of the influenza virus and influenza related illnesses. The best way to prevent influenza is to immunize high-risk patients and all schoolchildren on an annual basis. The practice of routinely immunizing children against influenza has the potential to benefit not only those who are vaccinated but also the entire community. Data from Japan showed that by vaccinating school-children against influenza can
protect other segments of the population. From 1962-1987, most Japanese schoolchildren were immunized against influenza each year. During that time, excess mortality due to pneumonia and influenza during the winter (among the elderly) dropped sharply, but when the immunization program was discontinued, the excess mortality rates rose once again (Li et al., 2009).