Standardized Education for Parents Requesting an Immunization Exemption for School Entry in Utah

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Purpose:

Since the beginning of the 19th Century, immunizations have saved millions of lives. Now routinely implemented worldwide as the cornerstone of public health, immunizations are regarded as one of the most important life-saving measures of all time (Remy, Zölner, & Heckmann, 2015). In American history, immunizations became a common practice with the mandate of the smallpox immunization in 1827 (Remy, Zölner, & Heckmann, 2015). Since then, laws have continued mandatory school immunizations to prevent outbreaks of communicable diseases (Omer et al., 2006). However, there have been unforeseen consequences of immunization success; namely, now most Americans lack firsthand experience with serious communicable diseases. Lack of experience with immunization-preventable diseases has led to parents focusing less on the overwhelming benefits of immunizations and more on possible adverse events (Gust et al., 2009).

As the perceived benefits of immunizations decrease, parental requests for school immunization exemptions have increased (Wang, Clymer, Davis-Hayes, & Buttenheim, 2014). All states in the United States allow at least one type of immunization exemption, whether it be for medical, religious, or philosophical reasons. Utah is one of 18 states allowing philosophical exemptions from immunizations (Centers for Disease Control and Prevention [CDC], 2015). In fact, exemptions in Utah for Kindergarten immunizations rose from 2.1% in 2007 to 4.4% in 2013, of which 95% were for philosophical reasons (Utah Department of Health, 2014). With this rise in Utah exemption rates, the integrity of the herd effect in Utah has been compromised. Additionally, only 75.2% of Utah’s children, at 2 years of age, have received all recommended vaccinations (Lampros, 2015). While herd immunity requires a 95% immunization rate to be effective, unimmunized infants and children are at greatest risk of acquiring highly virulent diseases, such as measles and pertussis (Wang, Clymer, Davis-Hayes, & Buttenheim, 2014). Consequently, Utah has experienced several outbreaks of immunization-preventable diseases, such as measles and pertussis, during the last 5 years.

According to Omer et al. (2006), there is a direct and positive correlation between the ease of the personal exemption process and the request for immunization exemptions. Mean exemption rates increased approximately 6% per year in states that grant philosophical exemptions with ease (Omer et al., 2006). In contrast, states with a difficult exemption process, such as intricate paperwork and extensive administrative processes saw no statistically significant change in exemption rates (Omer et al., 2006).

The state of Oregon has traditionally struggled with higher than average philosophical exemption rates. As a result, Oregon also has higher than average communicable disease outbreaks. To combat the rising philosophical exemption rate, Oregon enacted a law in 2014 that mandates parents seeking philosophical exemption to first get a Vaccine Education Certificate from their healthcare provider or after completing an online education module (Oregon Health Authority, 2014). While it is still too early to determine the effectiveness of required immunization education in Oregon, it should be noted that Oregon’s 2014-15 kindergarten exemption rates rapidly declined from 7.1% to 6% in one year (Seither et al., 2015). As a state that allows philosophical exemptions from immunization, Utah may also benefit from a standardized immunization education module.
The purpose of this project is to promote the administration of immunizations, educate parents of their importance and to increase the herd immunity in Utah. A secondary purpose is to mentor nursing students through the process of creating an online education module for parents choosing to exempt their children from immunizations.

Methods:

The purpose of this project is to mentor nursing students through the process of creating and implementing a standardized education program for parents choosing to exempt their children from immunizations, and to assist local health departments in Utah with the exemption process. Initially, faculty met with undergraduate students for orientation to the project, including background description of immunization perceptions in parents requesting exemption for their children. Furthermore, student mentoring included bi-monthly group and/or individual supervision meetings. Mentored students collaborated with Utah public health officials and immunization experts to further understand the need for a standardized immunization education module.

Because the students will be mentored by faculty that participate on the state Immunization Exemption Workgroup, professional collaboration will take place with public health experts including Utah Association of Local Boards of Health (UALBH), school nurses, school secretaries and principles, and the Utah Immunization Program manager. Additionally students will attend meetings and collaborate with the Northern Utah Immunization Coalition (NUIC), the Salt Lake County Immunization Coalition, the Utah County Immunization Coalition (UCIC), and the Utah State Department of Health (USDH).

With the mentorship of faculty, the students collaborated with UALBH and the Utah Immunization Program Manager to create the outline for the module through May – November 2017. During these collaborative and mentored experiences, students collected and reviewed information about communicable diseases, how parents can protect their unimmunized child in the event of a disease outbreak, and what requirements and guidelines are in place regarding quarantine of unimmunized school-age children. The module will assist parents to take responsibility and be proactive advocates for their children.

With the widespread use of online education, the development of an online standardized education module caters to the familiarity of web use in daily living. The mentored students and faculty collaborated with The Summit Group, a public relations and web design and development company, to design and program the immunization exemption module. The module was built around the information and data collected by the faculty, students, and collaborative agencies, and was standardized and will be made available online across the state for all parents requesting an exemption.

Upon completion of the online module, review and testing of the module will take place during February-June 2018. Faculty and mentored students will meet with UALBH and the Immunization Program Manager weekly to complete edits and make corrections to the module before it is distributed to the local health departments throughout Utah.

Results:

This project resulted in an enriched service-learning environment for students while addressing an incredibly timely need in the community. Although the implementation of this project is in its infancy, it is anticipated that standardized education will provide parents with correct information about immunizations and will result in fewer immunization-exempted children. Thus, the herd immunity in our state will increase, protecting those who are unable to be immunized.

Conclusion:
It is suggested that other states implement standardized education, especially states that permit philosophical exemptions. It is our hope that by providing standardized education, our communities will better understand how immunizations work, why they are needed, and will ultimately improve the herd immunity within our nation.

Title:
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Keywords:
Herd Immunity, Immunization Exemption and School Age Children

References:


**Abstract Summary:**

In Utah, there has been a constant decline in the number of people who vaccinate their children which has led to deteriorating herd immunity. Standardized education will promote the administration of immunizations, educate parents of their importance and will increase the herd immunity in Utah.

**Content Outline:**

Introduction (2 mins)

1. Importance of vaccination in preventing illness within a community
2. Decline of immunization rates all around the world, but especially in the state of Utah.
Main Point #1: School age children typically have the highest rates of immunization preventable diseases.

- Supporting points:
  - In Utah, only 75.2% of children have received all of the recommended vaccinations by age two (Lampros, 2015).
  - The percentage of Utah exemptions for school entry has increased from 1.2% in 1997 to 4.5% in 2013.

Main Point #2 Utah tends to have higher exemption rates than other states

- Supporting points.
  - In Utah, parents have the legal right to exempt their children from receiving immunizations for medical, religious, or philosophical reasons.
  - There are no standard guidelines regarding education prior to immunization exemptions in Utah.

Main Point #3 Implementing standardized education will aid in parental understanding of immunizations.

- Supporting points
  - The module includes information regarding immunization preventable diseases, how to protect unimmunized children in the event of an outbreak, and requirements for quarantine based on Utah law.
  - The module provides information on how immunizations protect the entire population from preventable diseases.
  - Misconceptions about vaccines may prevent parents from vaccinating their children. The module addresses common misconceptions and provides correct information as well as reliable resources.

III. Conclusion (3 mins)

1. The module will promote the administration of immunizations and will provide parents with correct information about immunizations.
2. Although the implementation of this project is in it’s infancy, it is anticipated that standardized education will result in fewer immunization-exempted children.

First Primary Presenting Author

**Primary Presenting Author**

Erin J. Marshall, SN, FNP
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**Professional Experience:** Erin has taken several courses that have taught her the importance of immunizations. Erin is currently a research assistant for Lacey Eden; the two have been working closely together on various immunization research projects for eighteen months. During Erin’s time as a research assistant, she has done a lot of research focused on vaccine-preventable diseases and on the decrease in herd immunity that has been occurring in Utah. Erin has also been working as a medical assistant in a
pediatric clinic where she provides information regarding immunizations to parents. Erin has presented her research findings at a local conference with the Utah Nurses Association, and an international conference in Pamplona, Spain with the International Family Nurses Association. Erin has been involved in her university's student nurses' association (SNA). Erin recently served on the SNA board as the membership director and is currently a member of the national student nurses association.

**Author Summary:** Erin Marshall is from Orem, Utah and is a nursing student who will enter her capstone this upcoming fall and will graduate in December. She started researching immunizations with Lacey Eden in May 2016 and later received a grant to create and implement an immunization education module in Utah. Erin loves researching immunizations and hopes to graduate and become either a pediatric or neonatal nurse.

Second Secondary Presenting Author

**Corresponding Secondary Presenting Author**

Lacey M. Eden, MS, NP-C
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**Professional Experience:** Mrs Eden is an Assistant Teaching Professor and has participated in many community projects and research projects to improve immunization rates. Over the past five years she has served as chair on local and national immunization coalitions. Additionally, she has presented podium presentation at several local, state, and national conferences.

**Author Summary:** Lacey Eden is a family nurse practitioner and loves to care for the pediatric population. Her experience teaching parents about immunizations has created a passion and drive to improve immunization rates to protect those most vulnerable. Mrs Eden spearheaded House Bill 308 that passed the 2017 Utah State legislative session and requires parents to complete standardized education prior to claiming an exemption.

Third Author

Janelle L. B. Macintosh, PhD, RN
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**Professional Experience:** Assistant Professor Macintosh teaches the research course to the undergraduate students at Brigham Young University in the College of Nursing. Her focus is on immunization rates in the Newborn Intensive Care Unit. She has been teaching research at BYU for 6 years and has mentored over 30 students in research projects.

**Author Summary:** Professor Macintosh has published several research articles on improving immunization rates. Her research has been presented at several local, national, and international conferences. Her passion for immunizations is obvious and students enjoy learning from her and doing research with her.

Fourth Author
Professional Experience: Associate Professor Karlen E “Beth” Luthy is well-known for her involvement in vaccination promotion activities. Since 2006, Associate Professor Luthy has authored 14 articles on the topic of immunizations. She has served as the Chair of the Utah County Immunization Coalition and the Chair of the Immunization Special Interest Group for the National Association of Pediatric Nurse Practitioners.

Author Summary: Professor Luthy has presented her research at several local, national, and international conferences. Her expertise is sought after for television, newspaper, and radio interviews on a regular basis. Her expertise in improving immunization rates has led to several successful community improvement projects that have increased immunization rates in Utah County.