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Vaccinating in the Aftermath of a Natural Disaster

Texas Immunization Unit’s Response to Hurricane Harvey
Background: Texas Immunization Unit

- Texas Vaccines for Children (TVFC) & Adult Safety Net (ASN) Programs
  - Over 3,000 providers enrolled
  - 94 DSHS Clinics
  - 130 Local Health Department Clinics

VFC 2521

ASN 55

Both 479
Background: Hurricane Harvey

- Category 4 with diameter of 280 miles and winds of 130+ mph
- Affected over 13 million people
- Caused $180+ billion in damages
- 780,000 people requested FEMA assistance
- 37,000+ Texans in shelters
- 10,000+ people rescued
### Harvey Response: Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>8/23/2017</td>
<td>Governor issues disaster proclamation for 30 counties. Communication established with target areas</td>
</tr>
<tr>
<td>8/25/2017</td>
<td>Hurricane Harvey makes landfall in the late evening hours between Port O’Connor and Port Aransas</td>
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<tr>
<td>9/5/2017</td>
<td>Immunization Cell in conjunction with State Medical Operations Center (SMOC) operations</td>
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<tr>
<td>9/29/2017</td>
<td>Official Hurricane Harvey Response ends for Immunization Unit</td>
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Harvey Response: Immunization Cell

- Round-the-clock staffed by TVFC Program Staff (including weekends/holidays)
- Data center for vaccine orders, shipment status, receipt status and dose tracking
Harvey Response: Immunization Cell

• Back-up support for vaccine storage and handling issues (worked with DSHS Pharmacy Branch on vaccine shipments)
• Packed supplies to be sent with vaccine (band-aids, needles, syringes, etc.)
• Provided updates daily to Immunization Unit and Section Staff
Harvey Response: Filling State of Texas Assistance Requests (STAR)

- Vaccine for First Responders and the general public affected by Hurricane Harvey
- 80 Total State of Texas Assistance Requests (STAR)
  - 65 STAR requests fulfilled
  - 15 STAR requests cancelled
Harvey Response: Geographic Location

- 26 Counties that received vaccines
- Vaccines types requested:
  - Tdap
  - Influenza
  - Td
  - Hepatitis A
Harvey Response: Vaccines Distributed

A total of 70,633 doses of emergency response vaccines were distributed in response to the hurricane.

- Flu: 7,690
- HepA: 6,742
- Td: 2,630
- Tdap: 53,571

Vaccinating in the Aftermath of a Natural Disaster: Texas Immunization Unit’s Response to Hurricane Harvey
Summary of Locations that Received Vaccines

- Local Health Department
- County Logistics Office
- Sheriff's Office Medical Division
- City Logistics Office
- DSHS Region Response Team
- State Operations Center
- Orange County
- Private Provider
- Church

Doses:
- Tdap
- TD
- Hep A
- Flu

- 24,720
- 14,150
- 12,100
- 6,520
- 3,000
- 2,100
- 1,683
- 1,120
- 1,120
- 240
- 150
- 100
- 100
- 10
# Harvey Response: Overview

## Successes

<table>
<thead>
<tr>
<th>Success</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiating Immunization Cell</td>
<td>to increase response time and create timely solutions to challenges</td>
</tr>
<tr>
<td>Collaboration between SMOC, Immunization Cell, and Pharmacy</td>
<td></td>
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<tr>
<td>Combining shipping methods</td>
<td>to get vaccine where it was needed most</td>
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<tr>
<td>Met the identified needs of jurisdictions impacted by Harvey</td>
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</table>

## Challenges

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Details</th>
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<tbody>
<tr>
<td>Issues establishing a method to track status of STAR requests</td>
<td></td>
</tr>
<tr>
<td>Purchase of ancillary supplies</td>
<td></td>
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<tr>
<td>Establishing optimal distribution method during first days of Immunization Cell</td>
<td></td>
</tr>
<tr>
<td>Communication with HHSC/IT in support of ImmTrac2 during disasters</td>
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</tbody>
</table>
Vaccinating in the Aftermath of a Natural Disaster: Texas Immunization Unit’s Response to Hurricane Harvey
Thank you

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LEVERAGING PHARMACY PARTNERSHIPS TO IMPROVE OREGON’S IMMUNIZATION RATES

Kerry Lionadh, ALERT IIS
NIH | May 16, 2018
Thomas Edison, is credited with this quote and I think it makes a great alternative title for my presentation because over the last decade in Oregon we’ve come to our successes in the journey to expanding the role of pharmacists’ in the immunization community through a lot of trial and error.

In our attempts at engaging the pharmacy community to report immunizations to our IIS, we made some assumptions that slowed our progress in collaborating. Early on, we assumed the approaches that worked in a traditional healthcare model would also work in a retail pharmacy model and we’ve been challenged at times by limiting beliefs throughout the immunizing community that stood in the way of progress. We continue to adapt policies and technology to address the differences in the way medical and pharmacy practices contribute to the immunization community and I’ll share what approaches we’ve taken and some of the lessons we’ve learned along the way.
Let’s go back to 2010. You may recall, that’s the year that the earthquake hit Haiti in January, the Deepwater horizon rig exploded in April and the Chilean miners were rescued after being trapped underground for months.
In the Oregon Immunization program we remember 2010 as the year that we launched the modern version of our immunization information system, ALERT IIS. In October our new, shiny IIS went live, expanding provider’s access to our web-based lifespan registry and giving them a secure way to enter immunizations and look up consolidated immunization records via the internet. Our roll out of the new system was phased by provider type over the course of a year but pharmacists were one of the first provider groups we brought on, a few months after go live in January 2011. The decision to bring pharmacists on to the new system right away was driven by legislation.
Leading up to 2010, Oregon Pharmacists were given more direction from the public health division through immunizing protocols, starting around 2005. With Public Health protocols they began immunizing adults 18 and older without a prescription but only for a few adult vaccines. Overtime the list of pharmacy protocols has grown from 2 to 26.

(It’s of interest to note that in 2005 when the pharmacy protocols were established, there was resistance among some of the traditional partners in the immunization community to the idea of giving pharmacists autonomy to immunize without a prescription.)

When the old version of our IIS began recording adult immunization records in 2008, pharmacies started reporting, but it wasn’t until January 2011 when reporting to the IIS was required by law.
So the legislation and launch of the new IIS were happening in parallel and a few months after the new ALERT IIS went live, Oregon admin. Rules were enacted for the 2010 legislation requiring pharmacists to report all immunizations to ALERT IIS while also lowering the age limit of individuals who could be immunized by pharmacists to age 11.

The requirement to report to ALERT IIS is another important event that shaped our partnership with pharmacies.

The legislation required our team to do some careful planning to communicate the change in law to pharmacies and to give hundreds of pharmacy users access to ALERT and train them to use it in time to meet the January deadline. To do that, we collaborated with the Board of Pharmacy which was essential to our ability to communicate the changes in law with pharmacists. That was the beginning of a successful collaboration with the Board that continues to this day. The pharmacy reporting requirement led to an increase in the number of immunization reported.

In our work with Board of Pharmacy to communicate the requirements we reached out directly to all Oregon pharmacies. The assumption we made in planning our communication came out of our close partnership with the Board of Pharmacy and as a result we unintentionally excluded pharmacy representation through other channels and
corporate chain of command was not taken into consideration. We learned a valuable lesson that is relevant in every state. Include the corporate partners as primary point of contact when communicating with larger pharmacy systems.

In addition, most pharmacists were submitting records electronically but because their systems were not also receiving data from IIS, they weren’t checking IIS because that meant they had to log on to a separate system which they perceived as disrupting their high volume work flow.

Furthermore, the secure, password connection was set up with rules that automatically locked them out if they didn’t log on at least every 90 days. Pharmacies were given the option to assign a staff person with a super user role so that inactive accounts could be reactivated, a model that worked well in clinical settings. But corporate chains chose to limit the super user access to one person, corporation wide and this model continues to hinder local staff from timely access to the IIS.
Legislative influences

Legislative changes in the next few years further added requirements and broadened authority. 2014 changes required pharmacists to look up consolidated immunization records in ALERT IIS before immunizing. It also lowered the age once again, this time to age 7. This change in law places Oregon among the states granting vaccinating pharmacists some of the most expansive authority in the country.
According to the Nat’l. alliance of state pharmacy association’s survey of states iz laws, Oregon is one of only 18 states that authorize pharmacists to administer vaccine without prescriber’s Rx or protocol and one of 12 states that places age limits below 8 years old. In Oregon immunizing authority comes from Public Health rather than individual prescribers.
We wondered if the change in pharmacy law would lead to more children getting vaccinated and provide better access to immunizations.

So our epidemiologist Steve Robison published an article in 2016 evaluating the impact of the change in Oregon pharmacy law by using data from the Oregon ALERT Immunization Information System (IIS) (limited to Clackamas, Marion, Multnomah, Polk, Washington and Yamhill Counties).

The 2011 change in Oregon law allowed pharmacists to increase the total of influenza immunizations given to adolescents.

He found that from 2007 to 2014, adolescent influenza immunizations at community pharmacies increased from 36 to 6372 per year. After the 2011 pharmacy law change, adolescents aged 11 to 17 were more likely to receive an influenza immunization compared with the reference population (odds ratio, 1.21; 95% CI, 1.19-1.22). Analysis of the 2013-2014 influenza season suggests that community pharmacies immunized a different population of adolescents than other providers.
In response to the 2014 legal requirement to look up immunization records in ALERT, one of Oregon’s major pharmacy chains set up bi-directional data exchange with ALERT to make compliance more efficient. This was the first pharmacy to set up real time bi-directional data exchange. Today, they are still the only pharmacy chain in Oregon using real time bi-directional data exchange but we are hopeful that other chains who submit daily and are supported by a data exchange hub offering real time dx capability may move in that direction soon.
Pharmacists contribute a significant amount of flu immunization data to ALERT IIS. They immunize fewer adolescents and children than other providers but based on the analysis of ALERT IIS data from the 2013-2014 influenza season community pharmacies may be immunizing a different population of adolescents than other providers.

S Robison – OIP epidemiologist
While on the topic of data exchange, I should mention how we collaborated with two corporate pharmacy partners in two college campus mass vaccination efforts in response to outbreaks of Mening B.

Oregon has had our share of outbreak responses in the last few years which has given us some opportunities to work more closely with corporate pharmacy partners.

We gained more insight into the specifics of communication within a major corporate structure as well as the pain points of accurately reporting immunizations in a timely manner for events occurring outside of the pharmacy setting.
In 2015 the response to the University of Oregon’s Menin B outbreak required mass vaccination of thousands of students. County, State and corporate pharmacy partners worked together successfully to deliver the vaccines. Our corporate pharmacy partner and pharmacy students made significant contributions to the effort and in the process we gained valuable experience in deploying a mass vaccination effort.
Then in 2017 unfortunately we got another opportunity to build on the experience we gained at U of O, when another outbreak occurred at OSU. This time a different corporate pharmacy partner stepped in to immunize students at the mass vaccination clinics. The outbreak at OSU has required three mass vaccination clinics over two academic years. The insight we gained into the specifics of our first outbreak response and the corporate reporting issues prepared us for the challenges that would likely arise with data exchange and file format when reporting immunizations occurring outside of the pharmacy setting. We took a proactive approach in communicating the reporting specifics to our pharmacy partners but we are still working to perfect the accuracy of the reporting from such events.

Specifically, we learned that the administration date of the vaccine was reported as the date the immunization was entered into ALERT IIS, and since the immunizations were entered a week or so after the event (and reported as if given at the pharmacy location rather than the campus mass vax. clinic) the forecasting of the second dose in ALERT IIS was a week later than it should have been and needed to be corrected on the back end.
We engage our pharmacy partners in a number of ways.

We include associations, corporate pharmacy partners, and the licensing board involvement on our policy advisory team, we have a robust internship program, we guest lecture at pharmacy schools and we survey pharmacists to learn more about their immunization practices.
Our collaboration with Board of Pharmacy led to developing a robust public health internship program for pharmacy students interested in immunization. We work with two different universities and usually have a steady rotation of pharmacy students in our office. We consistently hear from students how much they gain from our projects, and specifically how much value learning about pharmacies’ role in immunization and public health has brought to their professional development.

How it works: We collaborate with the board of pharmacy to develop an internship concept and to communicate with the school. An interested student is identified and a mentor assigned. Together they define milestones and deliverables for their project and they deliver a final presentation at the end of their term.

An example of our internship projects – in 2017 we worked with Pacific University pharmacy students to conduct a survey of pharmacist to better assess ways in which we can immunize Oregonians. The development of the project was overseen by our epidemiologist and staged in three successive internships.
Since 2017 we’ve conducted two surveys of Oregon pharmacists.

The first survey conducted in 2017 in collaboration with pharmacy interns was developed to help us learn more about the barriers to immunizing in pharmacy and improving our pharmacy immunization protocols.

The survey population was self-selected and pharmacists were notified of the survey by the Board of Pharmacy based on their active Oregon license. Survey respondents: 462 OR licensed, practicing pharmacists who reported being certified to administer immunizations. Most respondents reported working in a retail environment or in a clinical or hospital setting.
The results of the 2017 have not been published yet but here’s a peak at the kind of information we are gathering from the survey. We talked about the increase in adolescent flu vaccinations after the age dropped to 11, and over a third of respondents report that they often see parent-child same day immunizations, and overall, over 60% often see parent-child joint immunizations.

Note- pharmacies can have a special role as a family venue for immunizations.
At the same time immunizing pharmacists are comfortable giving and recommending imms for adults- but have challenges in both for teens and very much so for younger children.
At the same time immunizing pharmacists are comfortable giving and recommending imms for adults- but have challenges in both for teens and very much so for younger children
We’ve just completed another survey with pharmacists to gather opinions about the effectiveness of our pharmacy protocols.

This is a screenshot of our website where all the pharmacy protocols can be accessed.

There were 313 responses. We’ve had a large number of responses and overall we are learning that pharmacists find the protocols instructive, well organized and helpful to their immunizing role. One of the questions is about our strategic plan initiative to provide more access for pregnant women. About 50% of the respondents said they were very comfortable vaccinating pregnant women and another 30% responded that they were somewhat comfortable.
Oregon maintains a commitment to provide access to immunizations for all children, especially children who experience barriers to care. We know pharmacists have the potential to reach segments of the population who otherwise encounter barriers to care. We also know from our survey that 40% of our respondents were very comfortable recommending and giving vaccines to 11-17 year olds and the number is higher if you add those who stated they were comfortable.

Many pharmacists have expressed interest in joining the Oregon VFC Program, but there are policy barriers that prevent that partnership from moving forward. Oregon will continue working to overcome the barriers.

With regard to Oregon pharmacies there are a two VFC policies that stand in the way of participation.

CDC currently requires pharmacists to follow their policy for local public health clinics: that is, to take all comers, whether they can pay for administration fee or not. CDC also is currently not allowing new sites to use the replacement model. That too is a barrier for pharmacies.
We’ve heard from some partners that they would be willing to carry separate VFC inventory but the strong preference would be to offer VFC vaccine on the replacement model.

Pharmacy partners have expressed willingness to change their data exchange reporting to include VFC eligibility codes and take the additional step of manually entering billing into the Oregon medicaid payment system even though it would require some significant adjustments to implement the changes in their billing/reporting systems.
Our initial collaboration to communicate the requirement for pharmacists to report to ALERT IIS required fast action and working with the Board of Pharmacy which was essential to our success. That led to further successful collaborations with the Board that continue to this day.

The launch of the new IIS made it easier for everyone in the immunization community to access consolidated records, updated our previous rule for pharmacists to fax records to the primary care providers, and the pharmacy reporting requirement led to an increase in the number of immunization reported.

Pharmacists are our second largest reporter of flu immunizations

The 2011 change in Oregon law allowed pharmacists to increase the total of influenza immunizations given to adolescents.
We are getting better at developing channels to involve pharmacy more in policy. For example, pharmacy partners joined our IIS advisory committee and we continue to include their involvement in our policy advisory board.

We still have more work to do in terms of finding the best channels for communicating with corporate partners about issues with interoperability and IIS system workflows.

Lessons

• Involve pharmacy partners in policy planning
• Communicate through corporate channels
• Tailor IIS roles, user setup and functionality to work with pharmacy model
• Solicit feedback
Outcomes

- Broadening authority = more adolescent immunizations
- Requiring use of IIS = more complete records
- Internships = increased awareness of public health role
- Outbreak responses = opportunities for strengthening partnership

- Broadened immunizing authority led to larger # of adolescent immunizations
- Requiring the use of the IIS has increased our adult imm. Records and improved quality of adult data
- Prioritizing the development of robust and meaningful internships has given new generations of Oregon pharmacists a better understanding of their role in public health and has led to greater insight into the needs of pharmacy partners.
- Engaging pharmacy partners in outbreak responses has created more opportunities for dialogue and collaboration
THE ROAD AHEAD

Tailor IIS access & workflow
Encourage real-time bidirectional dx efforts
Strengthen communication with corporate partners at the regional level
Increase adolescent immunizations

Tailor IIS access & workflow
Encourage real-time bidirectional dx efforts
Strengthen communication with corporate partners at the regional level
Increase adolescent immunizations by working with CDC to revisit VFC policies that hinder pharmacy participation
Questions?

LEVERAGING PHARMACY PARTNERSHIPS TO IMPROVE OREGON’S IMMUNIZATION RATES

Oregon Health Authority