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**President’s Message**

**James Swan, Ph.D.**

**Children at the Border, Legalities, and Public Health**

The recent increase in children arriving at the U.S. border from three countries in Central America has been described as a “crisis.” Whether or not one thinks of it as a crisis for U.S. immigration and border security, there are certainly crisis elements from a public health standpoint. The major crisis for the children and their families involves the violence and outright slavery (e.g., attempted use of children as drug mules) in their countries of origin. That issue is the central point of requests for asylum and refugee status. There are other public health issues involving the journey to the U.S., and at times within the U.S.: a very dangerous journey, fraught with threats of violence, rape, and extortionate demands, as well as natural hazards. Some of those hazards are met by some within the U.S., insofar as they attempt undocumented immigrant routes, mostly through rough desert country, to avoid immigration enforcement. However, many, if not most, of the recent arrivals have not chosen means to avoid immigration enforcement, in fact have gladly turned themselves in with requests to have their legal status adjudicated. Ideally, these new arrivals will be placed with close-family or extended-family members already resident in the U.S. Despite some political efforts to nullify such protections, those protections are currently in place until cases can be adjudicated, so the issue is on what legal bases such adjudication may proceed.

It has been widely noted that a 2008 law mandates that such new arrivals be allowed to stay in the U.S. until their legal status can be adjudicated. Ideally, these new arrivals will be placed with close-family or extended-family members already resident in the U.S. Despite some political efforts to nullify such protections, those protections are currently in place until cases can be adjudicated, so the issue is on what legal bases such adjudication may proceed.

What has been widely mentioned, and what will likely be the legal route taken by many, is request for asylum based on reasonable fear for life and limb if a child, or adult, were deported back to the country of origin. This is clearly a public health as well as moral and legal issue; but the outcomes will flow from legal, and some political, points. There are many legal advocates standing ready to aid new arrivals in making such asylum claims; but such claims are likely to be very hard to establish before immigration judges. The issue is that asylum is to protect victims of persecution based on race, religion, nationality, political beliefs, or belonging to a specific social group. The law does not speak to gang-related persecution (e.g., intimidation, coercion, violence); and judges routinely denied on gang-related cases. This suggests that many (most?) such new claims will be rejected, submitting the new arrivals to deportation back to countries of origin – making the public health issues “their” issues rather than “our” issues.

There are, however, other legal avenues open to many of the new arrivals. Perhaps the most promising approach for a child would be to seek Special Immigrant Juvenile Status (SIJ), based on abuse or neglect, including abandonment, by one or more parents, whether in the U.S. or elsewhere. Thus, for example, a child arriving without parents, or with a mother but not a father, can have a legal plea that one or both parents abandoned (or even abused) the child, whether in the U.S. or the country of origin. This would involve obtaining a Predicate Order from a state judge, (often in a family court) that a parent has abused or neglected the child and that the child’s best interests would not be served by a return to the country of origin. Whatever the difficulties in obtaining such an order, they are likely less insurmountable than winning an asylum case. Of course, obtaining such an order and a subsequent SJIV leaves the public health issue alive of abuse and neglect of a minor, as well as other public health issues, but it would firmly root the issues as American, in many cases Texan, public health challenges.

There are other avenues of legal recourse that are possible but more remote. U-visas can be obtained where an adult or child can be shown to be a victim of a qualifying crime in the U.S., where such violence is reported to law enforcement, and where there is active cooperation with prosecution of the perpetrator(s). Similarly, Violence Against Women Act (VAWA) cases can result in resident visas for victims (female or male) of domestic abuse in the U.S. at the hands of a U.S. resident or citizen family.
There is also a T-visa to protect those brought to the U.S. as victims of human trafficking. Such laws were enacted with the good public health aim of encouraging victims of such violence to report it, and to lessen the ability of perpetrators to threaten victims with being deported if they did report. However, these approaches require that the offenses occur in the U.S. This is less likely if a new arrival immediately surrenders to the Border Patrol upon arriving in the U.S.; but such violence, domestic or otherwise, may certainly occur after the new arrival is temporarily settled in the country, pending adjudication of immigration status. This suggests the need for public health-related campaigns to detect and report cases of abuse, rape, human trafficking, and other violence among new arrivals temporarily resettled in the U.S.

This leaves the regular public health threats faced by poor people in the U.S. Contrary to the claims of some, new arrivals, particularly children, are not major disease carriers (nor drug smugglers); but they do face many of the same health hurdles as do other lower-income residents of the U.S. And unsettled immigrant status raises barriers to healthcare access higher than those faced by people with settled resident status. Public health workers, as well as personal-health providers, need to respond to the health needs of these highly-vulnerable new arrivals.

**Commissioner’s Comments**

**The Public Health Impact of Unaccompanied Children**

*David L. Lakey, M.D.*

Commissioner, Texas Department of State Health Services

Earlier this year the southwestern border of the United States saw dramatic increases in the numbers of unaccompanied children from Central American entering the United States. Thousands of children were apprehended by U.S. Customs and Border Protection, resulting in an emergency situation along the Texas-Mexico border that stretched federal resources.

While this was largely a federal issue, local health departments dealt with the ripple effects of managing the influx of people and of resources, offers of help, opinions and questions about the situation on the ground.

At the state health department, we mobilized an incident command structure this summer due to the volume of information and requests related to the situation. Higher numbers of children detained in more cramped quarters over longer periods of time demanded increased attention to public health. Along with local health departments in the Rio Grande Valley and across the state, we closely monitored the situation to evaluate the impact on public health in Texas.

One of our key actions was to visit border detention centers used to temporarily house children. We initially found major issues with overcrowding. Notably, there was a lack of hand washing stations, a lack of medical screening and a lack of adequate rest and recreation. Our staff believed the children’s initial living conditions posed a high potential for infectious disease outbreak among the children and staff and were not acceptable by Texas and national public health standards. We made our concerns known, quickly providing the federal government with information about infectious disease, hygiene issues, and Texas communicable disease law. We recommended that detention centers follow standards of mass care to the extent possible including adequate showers, water, toilets, trash receptacles, and adherence to hand washing protocols. We shared this information publicly and held informational coordination calls with our public health partners across the state.

Regarding the impact on overall public health, we urged the federal government to involve the Centers for Disease Control and Prevention in health and medical plans for the detention centers. We also called for full medical screenings for any children staying in detention centers longer than 72 hours and for anyone released from federal custody. In the midst of this high profile and fluid situation, we worked to convey accurate information to our stakeholders, lawmakers, the general public and the news media about the potential public health impact. We explained that the children coming here were understandably stressed and vulnerable to illness, and the potential for an outbreak – particularly in the detention centers – was real. At that time, we were seeing issues in line with what we would expect to see – illnesses that we are accustomed to seeing in Texas and are treatable. This included lice, scabies, gastrointestinal illness, respiratory illness, skin conditions, allergies. There were also at least three flu cases and four tuberculosis cases reported among unaccompanied children in Texas.

Because the number of children crossing the border is now within Border Patrol’s capacity, we recently demobilized our formal response structure, but continue to monitor the situation. The number of children crossing the border has declined. Progress has been made in the detention centers. A new Border Patrol central processing facility in McAllen has opened, and a visit we made to the new facility this summer showed improved attention to public health concerns. We continue to encourage the federal government to develop procedures for family units that take public health into account. Clearly challenges remain, but progress has been made and I’m open to continuing the dialogue with local health departments about the public health impact of the situation. My thanks to our local partners for sharing information along the way and for working with us to ensure health is a top consideration during a federal response.
Public Health Commentary: Children Refugees in South Texas

Thomas Schlenker, MD, MPH1, Hector F. Gonzalez MD, MPH2

1San Antonio Metropolitan Health District
2City of Laredo Health Department

As early as March 2014, a few hundred Central American children, who had travelled, unaccompanied by adults, up thru Mexico and crossed the U.S. border, were being housed and cared for in nine, closed-for-the-winter, summer camps in the Texas Hill Country. Baptist Child and Family Services (BCFS), a private, non-profit agency located in San Antonio, but with substantial national and international experience in sheltering vulnerable populations, was contracted by the U.S. Office of Refugee Resettlement (ORR), to execute the operation, just as they had during a similar surge of refugees in 2012. BCFS considered the 2014 surge action an emergency response, best compared to responses for special needs populations during disasters like Hurricanes Katrina and Rita.

Because the camps were soon to be recommissioned for summertime use and because the numbers of unaccompanied, border crossing children continued to rise dramatically, BCFS, at ORR request, opened on May 18 a site for 1200 children at Lackland Air Force Base in San Antonio. The physical site proved to be quite well suited: a single large building, one of several modules used for basic training, organized with boys and girls dormitories and bathrooms, a heavy duty cafeteria, meeting and recreation rooms and a large expanse of green space holding air conditioned tents for classrooms and outdoor sports fields, all entirely secure on a very large, urban U.S. military base. On June 13, BCFS opened a facility of similar capacity at Fort Sill in Oklahoma. Refugee arrivals continued to surge until early July (residency peaked at 2,323 on July 3rd) and then tapered off rapidly. Both Lackland and Sill shelters were closed by August 10.

The San Antonio Metropolitan Health District, as an integral component of the local emergency response network and long-time partner of BCFS, helped with initial sanitation and food safety logistics for the Lackland shelter and supported BCFS health services with immunizations, tuberculosis testing and infectious disease surveillance. The bulk of the work however was performed 24/7 by BCFS excellent full time and contracted staff who provided on-site medical care and high quality, culture and language specific, social services, education and recreation.

For example, several hours of classroom instruction for all school age children taught by certified bilingual teachers were offered daily. Focus was on grade-specific English, math and civics in the expectation that students would be enrolled in community schools throughout the United States when classes resumed in the Fall. Children, initially frightened and disoriented, felt, at the end of an average two to three week stay at Lackland, a sense of safety and well being that perhaps they had never experienced before. Recreation was also bi-cultural in that it included both soccer and American football played on used Astro turf donated by San Antonio’s Alamo Dome.

The medical care provided was thorough and excellent. BCFS bilingual nurses triaged those with true medical problems to on-site pediatricians but spent most of their time listening, talking and comforting lonely and frightened children. Not surprisingly, most of the troubles uncovered were psychological, the result of trauma experienced in their violent homelands or on the road thru Mexico. The nurses believed strongly that the time spent was very therapeutic for the children, who, most of all, greatly missed their parents and hoped for reunion with families in the U.S. The exotic, tropical diseases, much hyped by the media, were nowhere in evidence at Lackland or any of the other U.S. shelters. A handful of refugee children hospitalized with severe pneumonia in California turned out to have the common pneumococcal variety that was easily treated with antibiotics. Testimony at the 9th Annual Border Health Conference at the U.S. Capitol in Washington, DC corroborated that the claim of exotic, tropical diseases being brought into the U.S. was not factual.1 Legal status of unaccompanied children refugees and the care they receive are determined by the “Trafficking Victims Protection Reauthorization Act” signed into law by President George W. Bush. The goal of the act is to unite refugee children with family or other sponsors in the U.S. while their cases are adjudicated. By mid July over 30,000 children had be so placed.2

In Laredo and other points of entry, local authorities focused on immigrants’ journey, initial detention and transport. Local public health provided initial screening and attention while coordinating with Customs and Border Protection Agents (CBP) and detention centers. They worked alongside CBP to assure there was no public health threat and gave Homeland Security advice on precautions for the migrants, UACs and for the protection of the agents. Several outbreaks of chicken pox and scabies were contained, while vigilance was maintained for potential outbreaks of respiratory diseases like tuberculosis and influenza. Equally challenging were the thousands of migrants, mostly from Central America, who were released into local communities. Public health services from El Paso, Laredo, Hidalgo and Cameron Counties worked with other community agencies to address feeding, clothing, medical needs and surveillance for potential communicable diseases in the immigrant population as they waited to leave for other destinations in the U.S. where their court hearings would take place. Many travelled to the west and east coasts, primarily Los Angeles and Maryland. The Texas/Mexico border public health system was initially overwhelmed and seriously tested but persevered and continues to respond.

REFERENCES
Comparison of Adverse Events Involving Influenza Vaccine Reported to Two Programs
Mathias B. Forrester
Texas Department of State Health Services, Austin, Texas

Multiple programs may collect information on the same conditions of public health importance. Each program will have its advantages and disadvantages, depending on the type of information in which one is interested.

Although influenza vaccines are produced with high levels of safety, adverse events (health problems or possible side effects) may occur in a portion of the individuals exposed to the vaccines. Monitoring such adverse events is important for evaluating vaccine safety. The Vaccine Adverse Event Reporting System (VAERS) is a surveillance program sponsored by the Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA). VAERS collects information on suspected adverse events that occur after the use of vaccines licensed in the U.S. VAERS is a passive program; reports are voluntarily submitted by the individuals who receive the vaccines, their family or friends, healthcare providers, public health organizations, and others. The law requires that all personal identifiers are kept confidential. Publically available data on all vaccine exposures reported to VAERS is available on the program’s website (https://vaers.hhs.gov/index).

US poison centers are telephone consultation services that assist in the management of potentially adverse exposures to a wide variety of substances, including vaccines. Each poison center uses an electronic database to collect information on patient demographics and the circumstances, management, and outcome on all exposure calls they receive. The data fields and allowable fields are standardized by the American Association of Poison Control Centers (AAPCC). Reporting exposures to poison centers usually is voluntary; as a result, their databases also may be considered passive surveillance programs.

A previous study of all human vaccine exposures reported to VAERS from Texas and to the Texas Poison Center Network (TPCN) during 2000-2013 found that the most commonly reported type of vaccine was the influenza vaccine, reported in over 25% of the exposures in both the VAERS (n=4,138) and TPCN (n=226) databases. Table 1 shows the annual number of influenza vaccine cases. In both programs, the annual number of influenza vaccine exposures tended to increase during the time period. Moreover, the number of TPCN cases experienced a sudden surge in the number of cases in 2009 (an increase of 253% over the number reported the previous year). The number of VAERS cases likewise surged in 2009-2010 (an increase of 151%). This 2009 surge could be related to the occurrence of the influenza A H1N1 pandemic that year. A vaccine for that influenza strain was quickly developed and made available to the public. As a result of heightened concerns over the new vaccine, the public and healthcare providers might have been more likely to report potentially adverse H1N1 influenza vaccine exposures to VAERS and TPCN.

When the distribution of cases by month was examined (Table 2), season trends were observed for both programs. The greatest proportion of cases were reported during September-December, with October showing the highest rate. The US influenza season can start as early as October and end as late as May. In anticipation of this, the influenza vaccine may begin to be administered a month or more prior to the expected start of the influenza season.

When the patient demographics were examined (Table 3), the highest number of patients in both the VAERS and TPCN programs were age 20 years or more with the next highest number being patients age five years or less. Most of the patients in both programs were female. In the VAERS program, emergency department visits were reported in 1,408 (34.0%) of the cases. In the TPCN program, 43 (19.0%) of the patients were already at or en route to a healthcare facility when the poison center was contacted or referred to a healthcare facility by the poison center.

Table 4 lists the most frequently reported symptoms or adverse clinical effects in the VAERS and TPCN programs. Most of the symptoms were dermal in nature. The percentages for symptoms in TPCN were lower than roughly similar symptoms in the VAERS program. This could be because some of the exposures reported to TPCN do not result in any symptoms. In these instances, the caller was most likely concerned about the exposure even in the absence of symptoms. For example, a patient might have been given a double-dose of the influenza vaccine and the caller worried what the consequences might be. Among the TPCN cases, 85.4% were classified as not serious; no effects at all were observed or expected in 19.5% of the cases.

This study illustrates that poison centers serve as an additional information source for adverse events involving influenza vaccines. Poison centers offer a much smaller dataset than VAERS. However, poison centers might be useful for validating patterns of exposures reported to VAERS. Also, poison centers collect a wide variety of information on exposures, some of which might not be available in the VAERS database. Since both programs collect information on influenza vaccine exposures, poison centers might want to submit the exposures they manage to VAERS. In fact, a portion of adverse events involving influenza vaccines may already be reported to both VAERS and poison centers. Additionally, poison center data on influenza exposures may be used by organizations in certain situations. For example, when the H1N1 influenza vaccine began to be distributed to the public, the Texas Department of State Health Services (DSHS) wanted to monitor adverse events involving the vaccine. As part of that effort, the DSHS and TPCN created a system where the former would be notified of all H1N1 influenza vaccine adverse events reported to the latter. The system was considered useful. Subsequently, the system was expanded to include the reporting of all human vaccine exposures received by TPCN to DSHS.

REFERENCES
Table 1. Annual number of influenza vaccine exposures reported to the Vaccine Adverse Event Reporting System (VAERS) and Texas Poison Center Network (TPCN) from Texas during 2000-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>VAERS</th>
<th>TPCN</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>77</td>
<td>4</td>
</tr>
<tr>
<td>2001</td>
<td>95</td>
<td>10</td>
</tr>
<tr>
<td>2002</td>
<td>81</td>
<td>9</td>
</tr>
<tr>
<td>2003</td>
<td>122</td>
<td>11</td>
</tr>
<tr>
<td>2004</td>
<td>99</td>
<td>8</td>
</tr>
<tr>
<td>2005</td>
<td>152</td>
<td>14</td>
</tr>
<tr>
<td>2006</td>
<td>180</td>
<td>11</td>
</tr>
<tr>
<td>2007</td>
<td>245</td>
<td>15</td>
</tr>
<tr>
<td>2008</td>
<td>277</td>
<td>15</td>
</tr>
<tr>
<td>2009</td>
<td>696</td>
<td>53</td>
</tr>
<tr>
<td>2010</td>
<td>753</td>
<td>21</td>
</tr>
<tr>
<td>2011</td>
<td>471</td>
<td>18</td>
</tr>
<tr>
<td>2012</td>
<td>423</td>
<td>21</td>
</tr>
<tr>
<td>2013</td>
<td>487</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>4,138</td>
<td>226</td>
</tr>
</tbody>
</table>

Table 2. Monthly number of influenza vaccine exposures reported to the Vaccine Adverse Event Reporting System (VAERS) and Texas Poison Center Network (TPCN) from Texas during 2000-2013

<table>
<thead>
<tr>
<th>Month</th>
<th>VAERS</th>
<th>TPCN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>January</td>
<td>327</td>
<td>7.9</td>
</tr>
<tr>
<td>February</td>
<td>205</td>
<td>5.0</td>
</tr>
<tr>
<td>March</td>
<td>115</td>
<td>2.8</td>
</tr>
<tr>
<td>April</td>
<td>75</td>
<td>1.8</td>
</tr>
<tr>
<td>May</td>
<td>66</td>
<td>1.6</td>
</tr>
<tr>
<td>June</td>
<td>70</td>
<td>1.7</td>
</tr>
<tr>
<td>July</td>
<td>51</td>
<td>1.2</td>
</tr>
<tr>
<td>August</td>
<td>153</td>
<td>3.7</td>
</tr>
<tr>
<td>September</td>
<td>410</td>
<td>9.9</td>
</tr>
<tr>
<td>October</td>
<td>1,153</td>
<td>27.9</td>
</tr>
<tr>
<td>November</td>
<td>930</td>
<td>22.5</td>
</tr>
<tr>
<td>December</td>
<td>583</td>
<td>14.1</td>
</tr>
<tr>
<td>Total</td>
<td>4,138</td>
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</tr>
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</table>

Table 3. Influenza vaccine exposures reported to the Vaccine Adverse Event Reporting System (VAERS) and Texas Poison Center Network (TPCN) from Texas during 2000-2013 by patient demographics

<table>
<thead>
<tr>
<th>Patient demographic</th>
<th>VAERS</th>
<th>TPCN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Patient age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td>557</td>
<td>13.5</td>
</tr>
<tr>
<td>6-12</td>
<td>380</td>
<td>9.2</td>
</tr>
<tr>
<td>13-19</td>
<td>231</td>
<td>5.6</td>
</tr>
<tr>
<td>20+</td>
<td>2,841</td>
<td>68.7</td>
</tr>
<tr>
<td>Unknown</td>
<td>129</td>
<td>3.1</td>
</tr>
<tr>
<td>Patient gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1,305</td>
<td>31.5</td>
</tr>
<tr>
<td>Female</td>
<td>2,748</td>
<td>66.4</td>
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<tr>
<td>Unknown</td>
<td>85</td>
<td>2.1</td>
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<tr>
<td>Total</td>
<td>4,138</td>
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Table 4. Influenza vaccine exposures reported to the Vaccine Adverse Event Reporting System (VAERS) and Texas Poison Center Network (TPCN) from Texas during 2000-2013 by most common symptoms (adverse clinical effects)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>VAERS</th>
<th>TPCN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Pyrexia</td>
<td>677</td>
<td>16.4</td>
</tr>
<tr>
<td>Pain</td>
<td>557</td>
<td>13.5</td>
</tr>
<tr>
<td>Injection site erythema</td>
<td>489</td>
<td>11.8</td>
</tr>
<tr>
<td>Injection site pain</td>
<td>412</td>
<td>10.0</td>
</tr>
<tr>
<td>Erythema</td>
<td>398</td>
<td>9.6</td>
</tr>
<tr>
<td>Headache</td>
<td>357</td>
<td>8.6</td>
</tr>
<tr>
<td>Dizziness</td>
<td>348</td>
<td>8.4</td>
</tr>
<tr>
<td>Injection site swelling</td>
<td>334</td>
<td>8.1</td>
</tr>
<tr>
<td>Pain in extremity</td>
<td>315</td>
<td>7.6</td>
</tr>
<tr>
<td>Pruritus</td>
<td>303</td>
<td>7.3</td>
</tr>
<tr>
<td>Total</td>
<td>4,138</td>
<td></td>
</tr>
</tbody>
</table>

An exposure might involve more than one symptom.
Anabolic-Androgenic Steroid Abuse in Texas
Mathias B. Forrester
Texas Department of State Health Services, Austin, Texas

Anabolic-androgenic steroids, commonly known as anabolic steroids, are a family of hormones that include the natural male hormone testosterone in addition to others that are synthetic such as stanozolol, danazol, fluoxymesterone, methyltestosterone, oxandrolone, and oxymethalone. These hormones have anabolic (“muscle building”) and androgenic (“masculinizing”) effects, resulting in increased muscle strength and athletic performance, at times beyond what could be attained naturally. In recent years there has been considerable media attention regarding abuse of anabolic steroids and other performance enhancing drugs (PEDs) among elite professional athletes.1 However, the majority of anabolic steroid abusers are not competitive athletes but individuals whose goal is to be more muscular.2,3 Such individuals often take more than one anabolic steroid at a time (an activity known as “stacking”), and the dose they take frequently is many times the natural amount of testosterone produced normally by males.1

In addition, in recent years, testosterone has increasingly been promoted for the treatment of “Low T” or low testosterone in men. After men reach 30 years in age, their testosterone levels decline approximately 1% each year. As a result, older men may experience a decrease in muscle mass and strength as well as depression, lethargy, reduced sex drive, and sexual dysfunction. U.S. sales of testosterone have more than doubled since 2008 to $1.6 billion in 2012, and are expected to reach $5 billion by 2017.3 Thus, men may abuse testosterone, and possibly other anabolic steroids, to reverse perceived symptoms of Low T.

Long-term use of anabolic steroids may result in a wide variety of adverse outcomes such as cardiovascular effects (hypertension, cardiomyopathy, atherosclerosis, coagulation abnormalities, arrhythmia), suppression of testicular function, gynecomastia, genitourinary effects (impotence, priapism, azoospermia, prostate enlargement and cancer), hepatic dysfunction, neurological problems (psychosis, aggression, violent behavior, depression), dermal effects (acne, edema, pruritis, hirsutism), nausea, and vomiting.1,4,5 Adverse effects reported with acute overdose of anabolic steroids include leukopenia or neutropenia, hirsutism, gynecomastia, jaundice, hypertension, and depression.5

During 2000-2013, 74 instances of intentional abuse or misuse of anabolic steroids were reported to Texas poison centers. The number of agents used per case varied with one anabolic steroid reported in 69 cases, two anabolic steroids in four cases, and three anabolic steroids in one case. The specific substances among these 80 anabolic steroids were testosterone (40.5%), nandrolone (9.5%), stanozolol (6.8%), fluoxymesterone (4.1%), oxymethalone (4.1%), methandrostenolone (2.7%), methyltestosterone (2.7%), trenbolone (2.7%), androstenedione (1.4%), boldenone (1.4%), mesterolone (1.4%), methandriol (1.4%), methenolone (1.4%), oxandrolone (1.4%), zeranol (1.4%), and unknown anabolic steroid (25.7%). There was no clear annual or seasonal trend in the exposures. The age distribution of cases showed 18.9% who were younger than 20 years and 81.1% older than 20 years. Of the 61 cases where the patient age in exact years was known, the mean age was 26 years (range 14-53 years). The gender distribution was 95.9% male and 4.1% female.

The reported route of the exposure was 54.1% injection, 50.0% ingestion, 5.4% inhalation, 4.1% dermal, and 5.4% unspecified other or unknown. (A given exposure might have occurred by more than one route.) Seventy-three percent of the exposures occurred at the patient’s own residence, 17.6% public area, 1.4% another residence, 1.4% school, and 6.8% unknown.

The site of management of these exposures indicated that 47.3% were managed on site (not healthcare facility), 35.1% already at or en route to a healthcare facility when the poison center was contacted, 13.5% referred to a healthcare facility by the poison center, and 4.1% unspecified other or unknown site. The distribution by medical outcome was 25.7% no effect, 12.2% minor effect, 4.1% moderate effect, 1.4% not followed-judged as nontoxic, 17.6% not followed-minimal effects possible, 28.4% unable to follow-potentially toxic, and 10.8% unrelated effect. Thus, 36.4% of the exposures were known or suspected to be serious.

The most commonly reported adverse clinical effects were tachycardia (14.9%), chest pain (9.5%), agitation (8.1%), vomiting (5.4%), abdominal pain (4.1%), nausea (4.1%), and dizziness (4.1%). The clinical effects reported in two (2.7%) cases each were hypertension, erythema, fever, unspecified pain, ataxia, and headache. The clinical effects reported in one (1.4%) case each were edema, dermal irritation, low aspartate aminotransferase - alanine aminotransferase ratio, bleeding, electrolyte abnormality, drowsiness, and muscle rigidity.

In conclusion, relatively few instances of anabolic steroid abuse were reported to Texas poison centers each year. Although testosterone sales are increasing, there was no corresponding increase in anabolic steroid abuse. The majority of patients were male and half were 26 years or younger. The most common routes of exposure were injection and ingestion. Although the preponderance of exposures occurred at the patient’s own residence, the next most common locale was a public area. The majority of exposures did not result in serious outcomes, and the reported clinical effects were generally consistent with the literature. This pattern of exposures was similar to that found in a previous study that examined anabolic steroid abuse exposures involving moderate and major outcomes reported to all poison centers nationwide during 2003-2012.4

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Rising Anti-Vaccination Attitudes in the United States: A Plea for Paternalism

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I. Introduction

In February of 1998, Dr. Andrew Wakefield published his infamous article in The Lancet linking autism with the MMR vaccine, causing a public outcry against all childhood vaccinations. Despite the fact that Wakefield’s study was considerably flawed with a subject pool of just 12 children in Britain, only eight of which were diagnosed with autism, a subsequent drop in vaccination rates among children in the United States and Britain ensued. Years later, evidence emerged that Wakefield had falsified his data linking the vaccine with developmental disorders and subsequently lost his license to practice medicine in England. Nonetheless, the damage was done: many began to avoid vaccinating their children for fear of causing autism.

Sixteen years later, we are still seeing the aftermath of this paper in the surge in cases of preventable and potentially deadly diseases, like measles and pertussis. In 2013, there were 139 cases of measles in the United States, almost three times the typical yearly number of measles cases in the US, and only 26% of these cases were imported from other countries. This same year, epidemic levels of pertussis infection were seen in Texas. The myth that vaccines are unsafe prevails and continues to harm the health of citizens across the US and Britain alike. This is particularly evident with regards to the health of children, who are, unsurprisingly, most affected by diseases that are targeted by childhood vaccinations. These diseases, including polio, measles, mumps, rubella, and pertussis, were common causes of childhood disfigurement, disability, and death before the age of vaccinations. In the decline of vaccination use, these diseases could once again become threats to human health and welfare in the United States. For this reason, all physicians should be concerned about this rise in anti-vaccination sentiment as it has the potential to harm the most vulnerable of our patients: children.

Anti-vaccine advocates tend to frame the issue as one of personal choice and argue that people have the right to make the decisions they think best for their family based on their personal values. This argument may hold water when talking about the personal choices of mature adults, but what about the case when the decision is being made by a parent as a proxy for a child? Does a parent have the right to expose their child to potentially fatal diseases when it’s possible to prevent them? This paper explores the legal and ethical ramifications of the anti-vaccination movement and argues that parents do not have the right to refuse vaccinations for their children against life-threatening and highly transmissible diseases, assuming that these vaccinations are not contraindicated. Furthermore, physicians have a moral duty to ensure that these children get the preventative care that they need and have the ability to be some of the strongest advocates for children’s health in clinical and legal arenas. This means not only making recommendations during clinic hours and in the media but actively working with the legal processes to ensure that our country’s children are protected.

II. Why the Outbreaks are Happening

Although there have been unusual outbreaks of childhood diseases over the past several years, rates of childhood vaccination have remained more or less the same on average in the United States. Even looking at the level of individual states doesn’t yield many answers. As such, it seems difficult to pin the blame for recent outbreaks on the anti-vaccine movement. However, upon closer examination of populations at a local level, it becomes clearer as to the cause of this seeming discrepancy. When researchers in Michigan compared local geographic clusters of nonmedical vaccination exemptions with reported cases of pertussis, a significant overlap was observed. A similar study in California found similar geographic clusters in 39 areas.

Geographic clusters of non-medical vaccine exemptions can have extremely high rates of exemption, reaching up to 24% in Orchard Prairie and 17% Vashon Island in Washington, even if state-wide levels of vaccinations are within recommended standards. Given that most childhood diseases need rates of 85% or higher for herd immunity to be effective, this can present serious problems for infants or others who cannot be vaccinated for medical reasons.

In addition, these geographic clusters can affect more than just a single community. Large scale outbreaks in vaccine-preventable illness can also often be traced back to an epicenter such as these non-vaccinating communities, as seen in 2013 with a Texas megachurch being linked with 20 cases of measles. With illnesses that are so infectious and with such harmful potential, it doesn’t take much for vaccine-preventable illness to spread outside these communities and affect others.

III. Why the Anti-Vaccine Movement is Harmful

Unfortunately, the anti-vaccination movement is nothing new in the United States and actually has a history going back more than a century. In 1905, the Supreme Court ruled on Jacobson v. Massachusetts, a landmark case in public health that upheld the authority of states to enforce mandatory vaccination laws despite objections from individuals by imposing penalties for vaccine refusal. This was later upheld by the 1922 Zucht v. King ruling, which involved the exclusion of a child in Texas from public schooling because of her refusal of mandatory vaccinations. Zucht v. King affirmed the Jacobson v. Massachusetts ruling that states have the right to enforce vaccinations such as is “required for the protection of the public health,” namely other children that might be in school with unvaccinated children.

In response, the Anti-Vaccination League of America (AVLA) was founded “to promote universal acceptance of the principle that health is nature’s greatest safeguard against disease and that therefore no State has the right to demand of anyone the impairment of his or her health.” Similar to the modern vaccine refusal advocates, the AVLA preyed upon the fears of Americans by publishing titles like, “Horrors of Vaccination Exposed and Illustrated” and “Vaccination: A Curse and a Menace to Civil Liberty,” asserting unscientific claims that vaccinations were unsafe and unhealthy, as well a threat to the personal freedoms of the American people. Eventually the AVLA and other similarly-minded organizations died out in the United States, most likely due to the overwhelming benefits of vaccines that were seen in the early and mid-20th century: massive reductions in rates of deadly childhood diseases, such as smallpox, diphtheria, polio, measles, mumps, rubella, and pertussis.

Unfortunately, vaccine effectiveness has become its own worst enemy. As a result, we now have what could be termed a modern-day AVLA in the form of anti-vaccine advocates like Jenny McCarthy and Jim Carrey, who claim that childhood vaccinations cause autism, asthma, and other idopathic disorders. These claims, of course, are contradicted by a mountain of scientific research showing that vaccines are safe and effective, as well as numerous statements by organizations like the CDC, the WHO, and the American Academy of Pediatricians endorsing childhood vaccination.
advocates will claim any number of horrifying side effects of vaccinations such as autism, often citing the National Vaccine Injury Compensation Program as evidence that there are many people who are seriously injured by vaccinations every year. However, there have only been 3,645 substantiated claims in the 25 years of the program’s existence—about 146 people a year, most of which are anaphylaxis or encephalitis upon administration of the vaccine, not long-term developmental disorders. Given that almost 2 billion vaccines were administered between 2006 and 2012, this comes out to be about a 0.00005% chance of having a life-threatening reaction.

Despite some rare and experimentally proven side effects, there is no real scientific controversy about the benefits of childhood vaccinations and, truthfully, there wasn’t any such controversy at the beginning of the 20th century either. Studies have shown time and time again that children benefit tremendously from vaccinations against diseases like measles, mumps, and rubella and that the rise in diseases like autism is likely to be a diagnostic artifact. In short, the anti-vaccination movement hasn’t changed their arguments or their data in over a century but science has moved on without it.

IV. Why Vaccination Advocacy is Ethical and Legal

Although many primary care providers are actively counseling patients, some going as far as “firing” patients for non-compliance with vaccinations, others are vocally outspoken against vaccinations and have even gone so far as to create clinics specifically for those who don’t wish to vaccinate their children. Previously, these vaccine-denying doctors were the most outspoken but there has recently been a surge of pro-vaccine articles in the mainstream media. However, analysis of legal requirements of vaccines has shown that this isn’t enough: when a state makes it easy for parents to file for personal belief exemptions, the number of vaccinated children in that state goes down and the amount of vaccine-preventable illness goes up.

Given the overwhelming scientific evidence in favor of vaccines, why aren’t doctors taking more of a stand against the anti-vaccination movement in the legal arena, particularly in the case of children? The usual reasons cited are patient autonomy, one of the cornerstones of modern medical ethics, and the desire to avoid paternalism. We certainly have a healthy respect for patients’ decisions in medicine, even if we happen to disagree with them, as in the cases of Jehovah’s Witnesses, who are allowed to refuse blood and blood products even in life-threatening conditions. But even the respect for autonomy has its limits. Doctors regularly challenge medical decisions made by Jehovah’s Witnesses on behalf of their minor children, particularly when parents want to deny their children life-saving treatment. Usually paternalism is frowned upon as a practice in medicine, as it prevents patients from making decisions about their own care based on their personal value system. However, in cases involving the health and welfare of children, we agree that paternalism is sometimes justified.

In fact, there is a long history of medical and legal precedent for intervention in parental medical practices, dating back to 1944, when the Supreme Court ruling on Prince v. Massachusetts stated that “parents may be free to become martyrs themselves. But it does not follow they are free, in identical circumstances, to make martyrs of their children before they have reached the age of full and legal discretion when they can make that choice for themselves.” In the aftermath of Prince v. Massachusetts, numerous court cases have echoed this sentiment, concluding that “the child’s interests and those of the state outweigh parental rights to refuse medical treatment, parental rights do not give parents life and death authority over their children, and parents do not have an absolute right to refuse medical treatment for their children based on their religious beliefs.” Knowing this, it is certainly legal and ethical for physicians to advocate for schools’ enforcement of exclusionary policies for non-vaccinated children as well as other legal pathways to ensure vaccination despite possible parental objections.

V. Rebuttal to Objections: Why Vaccination is About More Than Autonomy

Many will object that comparing blood transfusions and vaccinations is unfair. Unlike vaccinations, transfusions are emergency life-saving procedures. Furthermore, transfusions are less risky than vaccinations.

But just as with refusal of blood transfusions, even non-emergent ones, refusal of vaccination carries the risk of disability and death. Measles remains one of the leading causes of childhood mortality in the world. 1 in every 200 cases of polio results in irreversible paralysis, particularly in cases of children under 5 years of age. 2 Out of every 200 cases of pertussis in infants leads to death. These are not inconsequential risks just as the risks of blood transfusion refusal are not inconsequential, especially given the high numbers of foreign immigrants to the US and citizens who travel outside of it. As for adverse reactions, while it is true that rarely there can be severe reactions to vaccinations, this is also true for blood transfusions, which carry the risk of allergic reaction, graft vs. host disease, autoimmune hemolytic reaction, blood-borne infection, and others. Objection to vaccination simply because it poses some risk is not a valid argument, for as a country, we have previously mandated risky procedures in children if the scientific consensus demonstrates that such benefits outweigh the risks. Scientific evidence has suggested exactly this. As such, medical professionals need to be advocating for these children legally to protect their health and safety, even if it is contrary to the religious or philosophical beliefs of the parents.

Even if we accept a parent’s right to make life-threatening medical decisions for their child, we still cannot countenance that same parent’s ability to make medical decisions about other children. Suppose that the unvaccinated child becomes ill but not life-threateningly so and attends school while still infectious. Not only do they pose a threat to immunocompromised children or other children who are unable to receive vaccinations, they are also a threat to those who are vaccinated by providing medium in which the pathogen can replicate. Due to their high replication rate within an actively contagious person, the pathogen is subject to antigenic drift, i.e. a mutation in the pathogen due to replication error, and this can potentially lead to a new strain of the illness that is not responsive to the vaccine. Viruses in particular are much more susceptible to antigenic drift, as can be seen with the emerging strains of influenza and HIV, which is concerning given that the majority of diseases inoculated against in childhood are viral. In short, by allowing unvaccinated children to become reservoirs for these illnesses, we are putting all the children they come in contact with at risk of being exposed to a new form of the pathogen.

VI. Conclusion

Many healthcare professionals will argue that it isn’t worth pursuing a small number of cases involving parental refusal of vaccinations; that we’ll only create bad feeling between providers and patients; and that herd immunity will protect these children as well as pregnant women, the immunocompromised, and others that are at risk from these diseases. Yet with the rising trend in anti-vaccination propaganda, as well as the rapidly increasing cases of preventable illness like measles and pertussis, it is clear that it’s more than just a few isolated cases of parents who are refusing to vaccinate. Not only are these parents putting their own children at risk but they are also putting the children of others at risk as well. As such, it is clear that as physicians, we have a moral duty to advocate for these children to the best of our abilities both in clinic and in courts. In a developed nation in the twenty-first century, no one, children especially, should be
dying of vaccine-preventable illness. Physicians are remaining too quiet on this issue; medical societies’ endorsement of vaccination is not enough. As a profession, we need to be proactive about this practice by introducing bills that make it more difficult to get non-medical vaccination exemptions for school children, actively protesting and testifying against bills that make it easier to get such exemptions, advocating for the enforcement of school vaccination policies, requiring waivers of liability stating that parents understand the risks of not vaccinating, and continuing to educate patients through the press and in clinic visits about the necessity and safety of childhood vaccination.

All medical professionals will agree that we by no means want to return to the time period of the Anti-Vaccination League of America, a time when diseases like smallpox, measles, and polio ran rampant in the population and killed thousands of children every year. Yet if we allow the anti-vaccine movement to go unchallenged, data from these geographical pockets with vaccination rates lower than necessary to maintain herd immunity and the large numbers of bills attempting to simplify the exemption process26 suggest that this is exactly what we are going to face. Autonomy is an important value in medical ethics, but sometimes beneficence, the common good, comes first.

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Age Well Live Well Texas

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The aging of Texas’ population is one of the most important demo-
graphic trends affecting our state. Over the next twenty years, the 65 and older population is projected to grow 184 percent. The “boom” of the older adult population, coupled with long life expectancy, means that Texans of all ages need to engage in regular healthy habits now, to ensure their future is healthy1. This is certainly an issue for public health, involving community health issues as well as healthy-lifestyle issues.

A person’s ability to “age well” is heavily influenced by his/her engagement in healthy habits, particularly clusters of healthy habits, awareness of aging issues and available resources, and by staying socially engaged and connected with others.3 Even low-levels and frequencies of behaviors such as physical activity can greatly improve health,4 including greater longevity.10 This is especially critical with the large numbers of Baby Boomers aging into senior-citizen status.11

To help Texans prepare in these key areas, the Texas Department of Aging and Disability Services (DADS) developed the Age Well Live Well program. Through regional Age Well Live Well collaboratives, DADS and local organizations work together to provide Texans with information and programs to help meet the challenges of aging.

Age Well Live Well focuses on:
• Improving the physical health of older adults, people with disabilities, their families, and the community;
• Providing opportunities for residents to stay engaged in the community through volunteer activities; and
•Creating awareness of aging issues and resources offered through Age Well Live Well collaboratives and the aging and disability network.

Age Well Live Well collaboratives provide their residents with information about the programs and resources to help them live and age well. These collaboratives also work to develop locally supported Age Well Live Well programs that are free or low cost for the participants. Some of these programs and resources include:

•Texercise, a health promotions program of DADS, that educates people about the importance of adopting healthy habits and motivates them to engage in healthy behaviors. www.Texeercise.com

•Volunteer You’ll Be Amazed, a volunteer campaign of DADS, that educates Texans about the value of volunteer programs for the aging and disability population and access to volunteer opportunities. www.dads.state.tx.us/volunteer/volunteering/index.html

•DADS Resource Sheet provides contact information on some of the most popular federal and state programs for older adults and people with disabilities. www.dads.state.tx.us/volunteer/partners/resourcesheet.pdf

Regardless of age, Age Well Live Well encourages implementing elements into lifestyles to ensure long, happy, healthy lives. First, it encourages healthy eating and engaging in regular physical activity – as through Texercise. It suggests Volunteering with something that has meaning to oneself. And it helps learning about the programs and services available to adults, young and old. But AWLW also addresses community health issues, particularly by creating community partnerships and encouraging the creation of programmatic initiatives in local communities.

Age Well Live Well Denton has been active for over three years. Its aims are to: encourage healthy lifestyle activities, build awareness of available resources, and create change through volunteerism and community engagement activities. AWLWD has sponsored or participated in a variety of activities:

1. The Denton Mayor’s Challenge to 100 businesses to work with AWLWD and sponsor healthy living activity programs for their employees.

2. The Denton Mayor’s Mile, in fall 2013, with the second to come in fall 2014 – sponsored and organized by AWLWD, in conjunction with the Mayor.

3. Undertook community forums seeking input from citizens on meeting healthy-living challenges.

4. Developed partnership with a variety of organizations, including two university systems (University of North Texas and Texas Woman’s University), the North Central Texas Area Agency on Aging, local Parks and Recreation, Serve Denton (a faith-based organization), and others.

5. Developed partnership with other organizations focused on healthy living – e.g., cosponsoring Senior Fitness Tests with local senior-fitness organization and award-winning senior gym, Seniors in Motion.

6. Sponsored Christmas Cards for Seniors, which in 2013 sent out 3500 volunteer-made Christmas cards to meals-on-wheels recipients in Denton County, with plans in place for the 2014 initiative.

7. Seeks to partner with the Denton County Health Department, and has begun to do so particularly through the DCHD’s Healthy Communities Coalition.

Statewide, Age Well Live Well collaboratives have been developed in Abilene, Austin, Dallas, Houston, Fort Bend, Fort Worth and San Antonio, in addition to Denton; and collaboratives in additional Texas localities are under development. To learn more about programs and activities in those areas contact:

•Abilene: Aleshia Willis email awillis@wtecog.org

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•Fort Bend: Nicole Volek email Nicole@volek.us

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•San Antonio: Kimberly Meyers email fitnesskinektions@gmail.com

For more information about Age Well Live Well, go to: www.AgeWELLliveWell.org.

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We thought we had them all on the run. Peter Piot, the Belgian infectious disease expert who is credited as a co-discoverer of the Ebola virus, recounts in his 2004 autobiography, No Time to Lose: A Life in Pursuit of Deadly Viruses, being counseled in the early 1970’s against going into the field of infectious disease – there were supposedly no more challenges left. And then the Ebola virus crept out of central African forests in 1976 killing some 90% of those infected, followed by the emergence of the AIDS pandemic in the early 1980’s. The scientific community took notice that the victory lap over infectious disease was wildly premature.

The battle continues today with more than 1100 people having died in the 2014 Ebola virus outbreak. The epicenter has moved into western Africa, with outbreaks reported by the CDC in Guinea, Liberia, Nigeria, and Sierra Leone. Around the world, virologists, specialists in zoonotic diseases and pharmaceutical microbiologists are all responding to the challenge. Texas researchers have likewise been called upon to help respond to the outbreak, bringing to bear a long history of Ebola research and involvement, and backed by facilities that are second to none.

Texas hosts two of the “baker’s dozen” Biosafety Level 4 laboratories (BSL – 4) in the United States, labs that are among the most technologically advanced and most secure in the world. One is at the University of Texas Medical Branch’s Galveston National Labs and the other at the Texas Biomedical Research Institute in San Antonio. BSL - 4 labs house the most virulent infectious disease agents on the planet, the kinds of agents that haunt people’s nightmares and inspire B-grade sci-fi films. Yet in these labs the researchers calmly don suits that would seem appropriate for astronauts on a space walk and routinely go about their business of finding the vaccines, treatments, and tests that will be needed to conquer Ebola, its near cousin Marburg, and whatever else may emerge.

Ebola and Marburg belong to the filovirus family, co-discovered by Dr. Frederick A. Murphy of Galveston’s National Labs. As an additional example of depth of expertise, Galveston National Labs’ Dr. Thomas Geisbert has more than a quarter century of experience researching Ebola and is working toward vaccines and broad spectrum therapeutics to treat filoviruses. Dr. Jean Patterson’s lab at the Texas Biomedical Research Institute has been working on filoviruses for over a decade and in collaboration with other institutions has helped develop three Ebola vaccines which are still in process of evaluation. Dr. Patterson is also chair of the Department of Microbiology and Immunology at the UT Health Science Center San Antonio School of Medicine.

BSL – 4 labs are designed and operated ever in mind of the awe-inspiring responsibility their charge implies. Dr. Thomas Ksiazek is responsible for high containment lab operations at the UTMB facility. His resume includes having served as Director of the CDC’s Special Pathogens Unit. Trained as a veterinarian and epidemiologist, his specialty lies in understanding how disease passes between animals that serve as the viral reservoir and humans, and passes between humans. In his long career he has been involved in containment efforts of ten other outbreaks of Ebola or Marburg alone. At times he has responded to three major infectious disease outbreaks in a single year. Dr. Ksiazek has been tapped to head up the team of CDC experts requested by the government of Sierra Leone to assist in containment of the current outbreak, which is particularly severe in that country.

We cannot expect that diseases such as these will remain within their countries of origin. Migration among the nations of West Africa is believed to have contributed to the spread of the current outbreak. Even in the United States, the CDC reports that sixty-eight patients were tested for Ebola in the first three weeks of August, 2014. While the testing has not thus far identified any U.S. cases, the challenges dealing with the outbreak “on the ground” in nations with considerably less resources will be considerable. In Liberia, a poverty-stricken section of Monrovia, the capital, was rocked by rioters who attacked and looted a clinic where those exposed to Ebola were being quarantined. The material looted had been in contact with potential patients and the quarantined themselves fled, fueling concerns about spread of the disease. The entire slum area, West Point, was subsequently placed under quarantine and civil clashes broke out.

If the natural course of disease and civil disruption and unrest were not enough to cause concern, viral hemorrhagic agents are considered by the CDC to belong to the category of highest risk of being used as bioterrorism agents: they can be easily transmitted person to person; they result high mortality and have the potential for social disruption; they require special preparedness measures. Surveillance and emergency preparedness require that the broad community of public health workers remain aware of the state of the art, and state of the threat.

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What do we have to fear from Ebola? The Ebola virus suddenly jumped into the news, with this year’s hard-to-control outbreak in western Africa. As of early October, there had been over 3,000 deaths in Guinea, Liberia, and Sierra Leone. The news strongly hit the U.S. media when U.S. missionaries contracted the disease and were treated in a specially-prepared hospital wing in the U.S. More recently a case appeared here in Texas, in Dallas, with treatment in a hospital that had quietly prepared itself for such an event. Perhaps fewer Americans noted that an outbreak in Lagos, Nigeria (a city of over 20 million population) was successfully controlled, based on the existence of facilities and trained personnel that had been dedicated to the care for other diseases, but which were quickly adapted to the response to Ebola. There are common threads in these stories of successful response: adequate treatment facilities and laboratories, well-trained personnel, some advance planning for response to infectious disease, and, most importantly, basic public health practices.

In the Dallas case and the Nigerian outbreak, an important factor in successful response was the basic public health, particularly contact tracing, including new technology that aids in performing it. The cases differed. In the Dallas case, the original infected individual showed no symptoms (so was not contagious) on the flight to Dallas. He came into contact with relatively few people, and, when symptoms appear, he went to the emergency room at a hospital that in theory was equipped both to diagnose the illness and to maintain infection controls. However, he was not diagnosed at that point. In consequence, he came into contact with additional people, including school children. When symptoms worsened, he returned to the ER, was diagnosed, isolated, and had treatment initiated. Contact tracing was done, identified those who might have been infected, and precautions taken to follow those contacts. Failure to follow protocols, or their lack in some health facilities, will likely create future concern about control of Ebola; but to date, control appears to have been effective.

In the Nigerian case, the individual had been under observation as possibly infected in another country, did show symptoms (so was contagious) on the flight to Lagos, and did infect other contacts in Lagos. In that case, others were infected, including a health worker and died as a result. And in fact, the disease was spread to another Nigerian city. However, contact tracing led to the identification and isolation of contacts; and the response was timely enough to stop the spread of the disease. That success depended on the existence of adequate laboratories to diagnose Ebola, facilities and programs to respond to infectious disease (e.g., polio), adequately-trained medical and public health personnel, and rapid training of additional needed personnel. This, as in the U.S., depended upon the existence of adequate resources (lacking in the countries most affected by the outbreak), but it was public health that made the difference. Although experiences with human Ebola infection inside the U.S. is new, experiences with other hemorrhagic diseases is not. For example, a case of Lassa fever in suburban Chicago in 1989 led to the death of the infected individual but no infection of others, including eleven individuals who had been considered high or moderate risk. Another case was diagnosed in Trenton, NJ, in 2004, again resulting only in the death of the infected individual, but no further spread. A case of Marburg Hemorrhagic Fever was diagnosed in Colorado in 2008, leading to no deaths and no spread. Of course, each hemorrhagic disease is different, and Ebola may be more virulent. However, these cases do suggest that an outbreak is unlikely in the U.S. or other countries with adequate health facilities and public health infrastructure.

So, what do we have to fear? Ebola is a deadly disease that has killed many. But its means of transmission is known. With proper protocols, its spread can be prevented. Even when the protocols fail, the public health system has considerable resilience to control it. And ultimately, control of the disease must be accomplished in West Africa, not just because of the human tragedy there but because it’s in American self-interest so as to keep more cases from coming here. We should not be complacent, but neither should we be overly fearful. With adequate public health funding we can protect the U.S. and world populations from disease outbreaks such as Ebola.

UPDATE: On October 8th the Dallas Ebola patient, Thomas Eric Duncan, became the first patient in the US to die from the disease. We offer our condolences to his family.

UPDATE: On October 12th, it was announced that Nina Pham, a nurse at Presbyterian Hospital Dallas who had treated Ebola patient Thomas Eric Duncan, was herself diagnosed with Ebola. Ms. Pham is the first known case of Ebola being contracted in the U.S. She was wearing protective gear while treating Mr. Duncan; but officials have noted that wearing the gear does not by itself prevent contracting the disease – a major issue being the avoidance of contamination while taking off the gear.

REFERENCES
ABSTRACT
Background: Federally-funded health centers that harness the reinforcing nature of collaborative efforts with aging services can better prepare for the needs of rapidly increasing numbers of vulnerable older adults. Methods: We surveyed 44 key informants at 31 health centers across Texas to evaluate partnerships with seven types of organizations serving older adults. Findings were analyzed to determine the level of collaboration with aging services and barriers to collaboration and serving older adults. Results: Health centers collaborated with at least one aging service through more informal than formal partnerships. Respondents indicated major barriers to providing services to older adults, including inadequate transportation, inadequate reimbursement from third party payer sources, and limited funding. Also, respondents indicated employees with multiple responsibilities were unable to develop collaborative relationships with aging services. Conclusion: Findings indicate that although collaboration occurs, financial incentives and a shared focus on underserved older adults can enhance commitments across public health and aging sectors.

INTRODUCTION
Although older adults age 65 years and over comprised 13% of the total population, they account for over one-third of hospital inpatient days of care and a disproportionate number of physician office visits and pharmacy purchases. Health care spending per capita is four times higher for older adults than for persons under age 65, a gap that will increase as more baby boomers retire and healthcare costs continue to escalate. Furthermore, older adults, particularly those who are minorities or foreign-born, are more likely to have multiple chronic conditions and functional limitations requiring long-term intervention. Primary care practices of health promotion, disease prevention and disease management for older populations are gaining the attention of the healthcare community as research continues to support these trends.

Health centers are key contributors to improving access to primary health care services. Administered by the Health Resources Services Administration (HRSA), Bureau of Primary Health Care (BPHC) under Section 330 of the Public Health Service Act, health centers provide quality services and their achievements are well documented under Section 330 of the Public Health Service Act, health centers demonstrate high scores in several domains of primary care, including ongoing care, coordination of service, comprehensiveness, and community orientation. Significant features of health centers contribute to their potential for improving senior health.

1. Health centers provide comprehensive primary care, including translation, transportation, care management and preventive services, to serve patients across the lifespan.
2. Health centers focus on health disparities related to chronic diseases, such as diabetes or asthma, which disproportionately affect older adults.
3. Health centers use a multi-disciplinary approach with health professionals who reflect diversity of the community served.
4. Health centers take a community-oriented approach involving local leadership, responsive health planning, and community health workers.
5. Health centers services are provided through multiple delivery sites located in medically underserved and health professional shortage areas.
6. Health centers provide services regardless of a person’s ability to pay.

Despite these outstanding attributes, health center use by older adults averages 7% and has fluctuated around this level for fifteen years amidst rapid growth in minority and low-income older populations. As the older population increases, health centers can gain a leading role in healthcare delivery for the elderly through a working integration with aging services.

Health centers secure resources for patients requiring complex and costly treatment. Aging service organizations also confront the burden of chronic disease management for older populations, and offer health centers with an opportunity to coordinate efforts, particularly in addressing the needs of vulnerable elderly lacking access to primary care services. Although previous studies have explored collaboration of aging and public health sectors at the state level, the role of aging services in the public health delivery system model to older adults at the community level remains unclear. We address this need by identifying the types and levels of collaboration existing between health centers and aging services in Texas, health center characteristics that may affect service collaboration between sectors, and barriers to service delivery for older adults at health centers.

METHODOLOGY
The study design and survey instrument were developed with the contribution of HRSA’s Dallas Regional Division and the primary investigator, and approved by the University of North Texas’s Institutional Review Board. Between July and August 2008, 44 personnel were surveyed at 31 health centers in Texas. Personnel included executive directors, medical directors and social workers involved with patient referrals to external agencies and were key informants about their health center. Written consent was provided by all survey participants.

Survey respondents rated perceived barriers to providing services to older adults and to collaborating with aging services on a three-point response scale from “major barrier” to “not a barrier”. Executive directors were asked to indicate a level of collaboration with seven categories of aging services, including senior centers, Area Agencies on Aging (AAA), home health agencies, the American Association of Retired Persons (AARP), the Alzheimer’s Association, long term care providers, and Shepherd’s Center faith-based volunteer organizations. Formal levels were evidenced by a recognized agreement in place between the organizations to signify a greater commitment between organizations. Informal levels were identified by the absence of this formality and signaled a lower level of commitment between organizations.

Data was analyzed in SPSS through a standard frequency analysis on categorical responses for levels of collaboration, perceived barriers to collaboration, and perceived barriers to service provision for older adults.

RESULTS
Table 1 summarizes the levels of collaboration with agencies serving older adults as indicated by 13 executive directors responding to
the survey. Respondents reported more informal than formal partnerships within each agency category. Informal partnerships occurred most frequently with senior centers (69%), home health agencies (69%), and long term care providers (69%). Formal partnerships occurred primarily with Area Agencies on Aging (15%), senior centers (8%) and the Alzheimer’s Association (8%). Respondents indicated the unavailability of agencies within the health center’s service area, with Shepherd’s Centers (54%) being the most frequently absent agency.

All 44 respondents indicated their perceptions of barriers to providing services to older adults. As seen in Figure 1, inadequate transportation (46%) and lack of program funding (43%) were perceived as major barriers. Inadequate insurance was seen as a “major barrier” (46%) and “somewhat a barrier” (46%) by an equal number of respondents. Over half of respondents observed attributes of older adults as “somewhat a barrier”, including older adults’ perceived lack of need (61%), frailty and mobility issues (59%), lack of awareness (55%), lack of caregiver support (55%) and literacy (52%). Figure 2 provides barriers to collaborating with aging services. A third of the respondents (34%) viewed the state’s low priority of aging and employees with multiple responsibilities as major barriers to collaboration. Over half of respondents indicated a lack of interest at the health center (55%) and in the community (52%) as “somewhat a barrier.”

Table 1: Comparison of Health Centers’ (N=13) Level of Collaboration with Agencies Serving Older Adults

<table>
<thead>
<tr>
<th>Agency serving older adults</th>
<th>Informal collaboration</th>
<th>Formal collaboration</th>
<th>Agency not Available</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Center</td>
<td>9</td>
<td>69%</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Home Health Agency</td>
<td>9</td>
<td>69%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Long Term Care Provider</td>
<td>9</td>
<td>69%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Area Agency on Aging (AAA) / Councils on Aging (COA)</td>
<td>7</td>
<td>54%</td>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td>Alzheimer’s Association</td>
<td>4</td>
<td>31%</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>AARP</td>
<td>4</td>
<td>31%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Shepherd’s Center</td>
<td>2</td>
<td>15%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Figure 1: Key Informants’ (N=44) Perceived Barriers to Providing Services for Older Adults
DISCUSSION

A health center’s commitment to serving older adults can be observed through partnership strategies with different types of aging services. The findings suggest that collaboration between health centers and aging services in Texas occurs more frequently through informal than formal partnerships as illustrated in Table 1. Informal partnerships with aging services identified in this study may demonstrate necessary impartiality of referrals and support a patient’s personal choice for providers such as home health agencies and long term care services, rather than reflect diminished commitments to serving older adults. Formal commitments were more likely to occur with aging services having directives to serve vulnerable populations. Local government agencies and senior centers funded by the Older American Act, and the Alzheimer’s Association provided opportunities for formal partnerships with health centers. The perception that agencies serving older adults are unavailable would signal gaps in services, although further questions are needed about the agency’s physical absence from the area or the respondent’s lack of awareness about existing services.

Concerns about establishing programs to serve older adults include barriers related to resources and perceptions about older adults. Inadequate financial resources of the health center and inadequate insurance coverage of older adults were perceived as major barriers to providing services to older adults. With the complexity of care that older adults with comorbid conditions require, and with stretched budgets and staffing on which health centers operate, low reimbursement is a significant and complicated barrier to health center collaborations and service delivery for older adults. Inadequate provision of transportation was also identified as problematic to offering services to older adults. For community-dwelling older adults no longer able to drive or access public transportation, the absence of transportation limits access to health centers. Impediments to serving older adults were related to perceived negative attributes of older patients, such as physical frailty, low literacy and lack of awareness. Provider education to improve communication and outreach with older adults may address these perceptions and overcome ageism.

Also, findings revealed several internal barriers for health centers to collaborate with aging services. An overburdened staff that cannot absorb the added responsibility of establishing and maintaining partnerships can undermine the potential of sharing resources. A lack of interest within the organization and in the community may underscore perceptions of scarce resources both in funding and infrastructure that discourage collaboration in an environment of competing populations and community needs. Because the study included responses from multiple staff from different disciplines, it is possible that responses were biased towards a respondent’s position of control and responsibility within the organization. Key informants provided perspectives on the practical aspects of caring for older adults in health center settings. However, more in-depth statistical analysis can identify the extent that individual-level responses represent organizational-level. Finally, generalizing these results beyond Texas may not be practical, thereby enforcing the need for regionalized and community-level studies of health center activity.

CONCLUSION

Identifying and overcoming barriers and improving current levels of collaboration are critical steps in preparing health centers for the future needs of the aging populations. In an environment of consumer-directed care, coordination between agencies and across sectors is essential. Moreover, community-based organizations must demonstrate cohesive and well-organized partnerships to efficiently operate in the current environment. Addressing barriers to formal partnerships can improve effective collaboration, and thereby enhance patient care and maximize resources. At the local level, enhancing competencies of key staff in geriatrics and hiring practices that consider previous education and experience with gerontology enrich health center services for older adults. At a policy level, encouraging collaboration across public health and aging sectors should include financial provisions to support partnership efforts between organizations. Regulatory standards that direct organizations towards the needs of underserved older adults encourage partnerships and strategic efforts for both sectors. Research on identifying health center barriers to aging services and on models of proven partnerships at regional and community levels will also improve collaborative efforts.
ACKNOWLEDGEMENTS

We thank the Health Resources and Services Administration, Dallas Regional Division for their guidance, support and access; community health centers in Texas for their participation in the survey; faculty at the University of North Texas Department of Applied Gerontology and Health Science Center School of Public Health for direction in developing the survey instrument; Senior Citizen Services of Greater Tarrant County for its support for the final manuscript.

REFERENCES

An Overview of Tobacco-Free Policy Among Worksites in a Central Texas County
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2Epidemiologist, Sacramento County Department of Health and Human Services, Disease Control and Epidemiology Unit, Sacramento, CA

ABSTRACT
The State of Texas is not smoke-free, leaving Texas municipalities and worksites to decide their smoke-free ordinances and policies. The majority of worksites in McLennan County are not regulated by comprehensive municipal smoke-free ordinances. Large employers (N=118) in McLennan County were sent a survey electronically, by mail, and/or by phone interview to assess worksite policies and measures to protect against smoke and smokeless tobacco exposures. The survey was distributed and the resulting data was analyzed and reported. A response rate of 64% (n=75) was achieved across worksites. Fifty-eight (77.3%) worksites reported having a tobacco use policy with 14 (24.1%) reporting a comprehensive tobacco-free campus policy. Among industries with more than 4 worksites surveyed, education (84.6%), healthcare (87.5%) and non-profit (85.7%) had the highest percentage of existing tobacco-free policy. A minority, 13 (22.4%) worksites, reported that their tobacco-free policy is not enforced. A total of 56 (74.6%) worksites reported not offering tobacco cessation support to their employees. This survey led to a better understanding of the tobacco and secondhand smoke protection among large employers in McLennan County. Ultimately, with a 100% tobacco-free campus being the highest level of protection, 61 (81.3%) of large employers surveyed in McLennan County have the ability to reduce the risk of exposure to tobacco and secondhand smoke through complete tobacco protection policy integration.

BACKGROUND
An association between smoking tobacco and cancer of the lung and larynx, head and neck, bladder, esophagus, pancreas, stomach and kidney exists. Additionally, a relationship between cigarette smoking and chronic conditions such as coronary heart disease, chronic obstructive pulmonary disease, aortic aneurysm and atherosclerotic peripheral vascular disease has been established. A meta-analysis of 55 studies supports the existence of a causal relationship between passive smoking and lung cancer. Exposure to secondhand smoke increases the risk of fatal and non-fatal coronary heart disease in nonsmokers, an increase in chronic bronchitis symptoms and development of atherosclerosis, which increases the risk of heart disease.

Long-term use of smokeless tobacco has been associated with a greater risk of myocardial infarction. Children living with smokeless tobacco users may be exposed secondhand to nicotine and other constituents of tobacco via contact with contaminated dust and household surfaces. It is for these reasons, that a tobacco-free environment has been identified as lower risk compared to a strictly smoke-free environment. The Centers for Disease Control and Prevention (CDC) estimates that nearly 41,000 Americans die annually from disease attributable to secondhand smoke exposure. Exposure to secondhand smoke has shown to have an immediate adverse impact on the cardiovascular system, which increases risk for heart attack and stroke.

There are 36 states in the United States that have implemented some form of statewide smoke-free law. The State of Texas is not among them. Smoke-free, as it is used in this study, is as defined by the Texas Department of State Health Services Texas Smoke-Free Ordinance Database. Each Texas municipality has the liberty to determine their smoke-free ordinances and policies. This study has particular interest in tobacco-free policy regarding the worksite. The potential for decreased chronic exposure on a daily basis for first or secondhand smoke where smoke-free or tobacco-free policy has not been implemented is significant. There is evidence that comprehensive smoke-free policy in the worksite decreases smoke exposure.

Population and Methods
McLennan County, Texas has a reported population of 234,906 according to the 2010 US Census and the majority of the municipalities are not regulated by comprehensive smoke-free ordinances. Seeking to understand the potential risk of smoking exposure and evaluate the broader tobacco-free policy landscape in a Central Texas County, a survey was conducted to evaluate the tobacco-free policy among worksites in McLennan County. The Waco-McLennan County Public Health District (WMCPHD), seeking to assess public health risk associated with tobacco in the worksite, took initiative to better describe the level of protection large worksites offered their employees/customers. The Texas Smoke-Free Ordinance Database and data provided by WMCPHD Environmental Health Department was used to describe the smoking ordinances in municipalities throughout McLennan County. With varying smoke-free ordinance protection throughout McLennan County, large worksites were surveyed to document the overall tobacco protection levels in the workforce, including smoke protection.

The WMCPHD implemented a short, 10 question survey to describe the tobacco protection levels at large worksites in McLennan County. Collaboration between WMCPHD, the Smoke-Free Waco Coalition and Texas Department of State Health Services tobacco control experts ensured the survey would be valuable across different tobacco initiatives. To meet the criteria for inclusion, the worksite had to employ at least 50 individuals as listed by the Greater Waco Chamber of Commerce as of May 2013. The survey was distributed electronically, by mail and by phone to key personnel at large worksites in McLennan County. In order to capture more than smoke protection from existing policies, tobacco-free terminology was used to cover all forms of tobacco use. Tobacco-free, which includes smoke and smokeless tobacco, is considered to be comprehensive, which is why this term was used in the survey. The survey was addressed to the wellness coordinator or human resources representative of the business, agency or organization.

Initially, a Uniform Resource Locator (URL)/link to the survey was sent via electronic mail (email) to all worksites for which email contact information was available (n=51) on May 6, 2013. A third party survey tool, SurveyMonkey© was used for all emailed surveys. A four-week window for email survey response was allowed. During the first week of June 2013, the survey was mailed via United States Postal Service (USPS) for follow up among those worksites that did not respond electronically and to those who did not have a listed email address (n=106). The first week of July 2013, phone interviews were conducted with worksites (n=58) that had not responded either electronically nor via the mailed survey. Pearson’s Chi Square test was used to assess significant differences between data collection methods. Overall, 75 of 118 (64%) of employers responded to the survey electronically, by mail or by phone interviews to assess worksite policy and protection levels regarding tobacco use (Table 2). Multiple worksites were given more than one way to respond to the survey. The administration and collection of the survey spanned 11 weeks. The data was analyzed with StataCorp LP STATA SE 13 (College Station, TX). This project did not undergo review by an internal review board but was approved by the Waco-McLennan County Public Health District.
RESULTS
A population breakdown for McLennan County and the associated nested populations is illustrated in Figure 1. McLennan County has an estimated 104,749 (44.6%) employed individuals with an unemployment rate of 4.6%22. The worksite tobacco tool was distributed to different types of industry of varying size. The survey response from 75 large worksites represents an employed population of approximately 25,943. Among worksites surveyed, 20,330 employees are under some sort of tobacco-free policy with the remaining 5,613 employed at worksites without any tobacco-free policy.

McLennan County is comprised of 22 incorporated and 2 unincorporated municipalities. There are 10 municipalities reporting smoke-free ordinances, 2 of these are considered comprehensive smoke-free (Table 1). The two municipalities offering comprehensive smoke free ordinances make up a total population of 11,016 (4.7%). The other eight municipalities make up the majority of the population (169,369 / 72.1%) serving the community with weak or mixed level smoke-free ordinances. Residents living in unincorporated areas or municipalities without a smoke-free ordinance make up 23.2% of the McLennan County population.

The worksites surveyed represented 17 different types of industry according to the Greater Waco Chamber of Commerce21. The industries of construction (6), education (13), healthcare (8), manufacturing (15), non-profit (7) and utilities (5) had the highest frequencies for worksites surveyed (Table 3). Education (84.6%), healthcare (87.5%) and non-profit (85.7%) had the highest percentage of worksites reporting an existing tobacco-free policy. Industries with more than 4 worksites responding, construction (66.7%) and utilities (60.0%) had the lowest percentage of tobacco-free policies. The education, healthcare and manufacturing industries are the largest employers who responded to the survey.

Fifty-eight (77.3%) worksites reported an existing tobacco-free policy. Table 4 shows 39 (52.0%) worksites indicated they permit tobacco use in designated areas only, while 14 (18.7%) worksites reported they did not allow tobacco on the premises. Several worksites indicated having a tobacco-free facility that permitted tobacco use in designated outdoor areas, such as smoking zones. As the strength/comprehensive-nature of the tobacco-free policy increases, the likelihood of an employer having the policy decreased. Worksites reporting some level of tobacco-free policy included the following

![Figure 1. McLennan County and study population counts.](image)

Table 1: Smoke-Free Ordinances in McLennan County, using the Texas Smoke-Free Ordinance Database

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Municipal Worksite</th>
<th>Private Worksite</th>
<th>Restaurant</th>
<th>Bars (Not in Restaurant)</th>
<th>Bars in Restaurants</th>
<th>Pop.</th>
<th>Percent County Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bellmead</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>9,901</td>
<td>4.21%</td>
</tr>
<tr>
<td>Beverly Hills</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1,995</td>
<td>0.85%</td>
</tr>
<tr>
<td>Hallsburg§</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>507</td>
<td>2.22%</td>
</tr>
<tr>
<td>Hewitt</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>13,549</td>
<td>5.77%</td>
</tr>
<tr>
<td>Lacey Lakeview</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6,489</td>
<td>2.76%</td>
</tr>
<tr>
<td>Moody</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1,371</td>
<td>0.58%</td>
</tr>
<tr>
<td>Robinson</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>10,509</td>
<td>4.47%</td>
</tr>
<tr>
<td>Waco</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>124,805</td>
<td>53.13%</td>
</tr>
<tr>
<td>West</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2,807</td>
<td>1.19%</td>
</tr>
<tr>
<td>Woodway</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>8,452</td>
<td>3.60%</td>
</tr>
<tr>
<td>All other</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>54,521</td>
<td>23.21%</td>
</tr>
</tbody>
</table>

Note: 5=100% Smoke Free; 4=Moderate; 3=Mixed; 2=Limited; 1=No Coverage

*All cities who have no existing smoking ordinance and unincorporated areas

§Reported by the Waco-McLennan County Public Health District
**TABLE 2. Survey response rates from worksite contacts by multiple methods.**

<table>
<thead>
<tr>
<th>Sample</th>
<th>E-Mail (n=51)</th>
<th>Mail (n=106)</th>
<th>Phone (n=58)</th>
<th>Total (N=118)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>12 (24)</td>
<td>48 (45)</td>
<td>15 (26)</td>
<td>78 (64)</td>
</tr>
<tr>
<td>No</td>
<td>39 (76)</td>
<td>58 (55)</td>
<td>43 (74)</td>
<td>43 (36)</td>
</tr>
</tbody>
</table>

*The total number of worksites surveyed, some worksites were surveyed through multiple methods.

**TABLE 3. McLennan County worksite survey responses by industry**

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Number of Worksites (N=75)</th>
<th>Number of Employees at Worksites (N=71) *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count with policy (%)</td>
<td>Count with policy (%) within industry (%)</td>
</tr>
<tr>
<td>Aerospace</td>
<td>1 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Construction</td>
<td>4 66.7%</td>
<td>74.6%</td>
</tr>
<tr>
<td>Education</td>
<td>11 84.6%</td>
<td>66.9%</td>
</tr>
<tr>
<td>Financial</td>
<td>2 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>7 87.5%</td>
<td>93.0%</td>
</tr>
<tr>
<td>Insurance</td>
<td>1 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Local Government</td>
<td>1 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Management</td>
<td>1 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>12 80.0%</td>
<td>77.6%</td>
</tr>
<tr>
<td>Media</td>
<td>0 0.00%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Non-Profit</td>
<td>6 85.7%</td>
<td>92.9%</td>
</tr>
<tr>
<td>Professional</td>
<td>0 0.00%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Recreation</td>
<td>1 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Services</td>
<td>2 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>State Government</td>
<td>1 100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Utilities</td>
<td>3 60.0%</td>
<td>61.9%</td>
</tr>
<tr>
<td>Unknown</td>
<td>2 50.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

* 4 worksites did not self identify, therefore no calculation on number of employees was made for these worksites.

**TABLE 4. Summary of McLennan County worksite survey response (N=75)**

<table>
<thead>
<tr>
<th>Question</th>
<th>Count (Yes)</th>
<th>(%) worksites with policy (n=58)</th>
<th>(%) of all worksites surveyed (n=75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a tobacco use policy?</td>
<td>38</td>
<td>77.3%</td>
<td></td>
</tr>
<tr>
<td>Does the Policy include:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permits in designated area only?</td>
<td>39</td>
<td>67.2%</td>
<td>52.0%</td>
</tr>
<tr>
<td>Creates tobacco-free facility?</td>
<td>20</td>
<td>34.5%</td>
<td>26.7%</td>
</tr>
<tr>
<td>Creates tobacco-free facility, plus 25ft from entrances, exits, air intakes and open windows?</td>
<td>16</td>
<td>27.6%</td>
<td>21.3%</td>
</tr>
<tr>
<td>Creates tobacco-free property?</td>
<td>14</td>
<td>24.1%</td>
<td>18.7%</td>
</tr>
<tr>
<td>Workplace have signs?</td>
<td>41</td>
<td>70.7%</td>
<td>54.7%</td>
</tr>
<tr>
<td>Prohibit smoking in vehicles while working?</td>
<td>48</td>
<td>82.8%</td>
<td>64.0%</td>
</tr>
<tr>
<td>Workplace have policy to inform on existing tobacco policy?</td>
<td>45</td>
<td>77.6%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Offer cessation courses?</td>
<td>19</td>
<td>25.3%</td>
<td></td>
</tr>
<tr>
<td>How is the policy enforced?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees or fines</td>
<td>1</td>
<td>1.7%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Employee demerit</td>
<td>16</td>
<td>27.6%</td>
<td>21.3%</td>
</tr>
<tr>
<td>Violator is asked to leave premisse</td>
<td>18</td>
<td>31.0%</td>
<td>24.0%</td>
</tr>
<tr>
<td>Tobacco policy is not enforced</td>
<td>13</td>
<td>22.4%</td>
<td>17.3%</td>
</tr>
<tr>
<td>Did not respond</td>
<td>10</td>
<td>17.2%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Administrative support?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>42</td>
<td>60.0%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>16</td>
<td>22.9%</td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
<td>12</td>
<td>17.1%</td>
<td></td>
</tr>
<tr>
<td>Employee support?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>32</td>
<td>45.7%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>22</td>
<td>31.4%</td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
<td>16</td>
<td>22.9%</td>
<td></td>
</tr>
</tbody>
</table>

*N=70*
methods to inform employees/customers regarding tobacco policy: 41 (70.7%) display tobacco-free signage, 45 (77.6%) report a process for informing employee/customers regarding the tobacco-free policy. The majority of worksites, 48 (82.8%), reported a policy disallowing smoking in work vehicles and private vehicles while on the job. When asked if the worksite offered tobacco cessation support for employees, 19 of 75 (25.3%) did.

Worksites were questioned about enforcement of their tobacco-free policy, 1 (1.7%) indicated using fees or fines, 16 (27.6%) used employee demerit, 18 (31.0%) requested that the violator leave the premises and 13 (22.4%) were not enforced in any fashion. There were 10 (17.2%) worksites who did not respond to this question. Support for a 100% tobacco-free worksite was perceived by those surveyed as greater among the administration compared to the employees. Several respondents mentioned not feeling as though they could give an accurate account of the facility employees or administration, resulting in 5 worksites failing to respond.

**DISCUSSION**

The McLennan County worksite tobacco study sought to assess 118 worksites and succeeded with 75 large employers in an effort to inform local stakeholders and health officials on worksite tobacco-free policies. An overall response rate of 64% was thought to be successful, as previous surveys conducted by WMCPHD have not reached this rate. Presenting the worksites with multiple options to respond, may have contributed to the successful response rate. Those worksites responding to the survey via USPS were less likely than the rest to respond (p-value <0.001) and phone interview (p-value <0.001). Email and phone interview response rates were not significantly different (p-value=0.281) compared to one another (Table 2).

The majority, 58 (77.3%), of worksites indicated having a tobacco-free policy; this can partially be attributed to municipal smoke-free ordinances. Only 19 (25.3%) of the worksites reported offering tobacco cessation support. This low percentage could be due to the specific question on the survey not clearly defining cessation support or who offered the cessation support. Several of the respondents indicated that they offered employees cessation resources through their insurance provider. If the question was phrased to include offering these resources through their insurance provider as well, the response to the cessation resources question might have changed.

Asking the respondent to give a statement on the administrative and employee support for a strong 100% tobacco-free worksite was seen to be subjective. This made several respondents uneasy, accounting for several omissions to those questions. The majority (82.8%) of worksites with policies included clauses that did not allow smoking in vehicles while doing job related tasks. This is the only question on the survey that asked specifically about smoking; the rest referred to all tobacco use. Secondhand smoke exposure in vehicles can be 10 times more concentrated than the level considered unhealthy by the U.S. Environmental Protection Agency.

Studies have shown that comprehensive smoke-free laws contribute to lower smoking rates. In 2013, 21% of McLennan County residents stated that they are current smokers. That is approximately 3% higher compared to the State of Texas and US average, 18.2% (2012) and 18.1% (2012) respectively. Data from Texas Cancer Registry shows the incidence and mortality rates for lung and bronchial cancers are both higher in McLennan County compared to the statewide average. From the years 1995 to 2011 the statewide average has seen a downward trend in incidence for lung and bronchial cancers, where McLennan County rates have not.

Comprehensive smoke-free policy is associated with decreased hospitalizations due to cardiac, cerebrovascular and chronic obstructive pulmonary disease. This survey indicates large employers throughout McLennan County have different levels of tobacco protection for their employees and customers. Ultimately, 81.3% of large employers in McLennan County have the ability to reduce the risk of exposure to tobacco and secondhand smoke through stronger tobacco protection policy integration.

**Limitations**

There are several large retail and governmental employers in McLennan County who were not surveyed regarding tobacco-free policies. Those industries responding to the tobacco survey may not represent the breadth of industry in McLennan County. A copy of worksite tobacco-free policies reported by wellness coordinators or human resources administrators was not requested nor reviewed as a part of this study. Information bias could be present due to one representative from each worksite responding as an ambassador without documented policies. The survey tool used tobacco-free and smoke-free language, therefore it is possible for some confusion of the terms when referencing smoke-free and tobacco-free. Tobacco-free restricts all tobacco products from the worksite where smoke-free specifically restricts products that produce smoke. For future WMCPHD surveys, a clear distinction between smoke-free and tobacco-free will be outlined to better describe and compare smoke-free policies vs. tobacco-free policies. Electronic cigarettes were not specifically mentioned in the survey tool. Early studies have shown that electronic cigarettes are not emission free and further research is needed to better understand the health effects from active and passive exposure to vaping.

**REFERENCES**

29. Cancer data have been provided by the Texas Cancer Registry, Cancer Epidemiology and Surveillance Branch, Texas Department of State Health Services, 211 E. 7th Street, Suite 325, Austin, TX78701, http:// www.dds.state.tx.us/cancer/default.shtm, or (512) 305-8506.
ABSTRACT

Background: The alarming rates of childhood obesity are a national concern associated with physical, psychosocial, and financial burdens. With this knowledge, a family nurse practitioner recognized the need to develop community-based interventions to address childhood obesity.

Methods: A select team of community leaders were assembled to develop a multidisciplinary, community collaboration centered on the utilization of public-private partnerships. A logic model was used to identify resources, interventions, and projected outcomes.

Results: A collaborative community organization was founded, and subcommittees were established to address concerns within five main categories (leadership, physical activity, nutrition, environment, and communication). The logic model continues to function as a foundation for building public-private partnerships with a common goal of reducing childhood obesity in Del Rio, Texas.

Conclusions: Combining the use of a logic model with the development of public-private partnerships is an effective method for establishing a community collaborative aimed at reducing childhood obesity.

Key Words: childhood obesity, public-private partnerships, logic model

INTRODUCTION

The American Medical Association voted to classify obesity as a disease at its 2013 Annual Meeting.1 Although this does not have legal implications, the vote signifies the recognition of obesity as a complex disease requiring a broad range of interventions for both prevention and treatment.1 This is seen as the first step in achieving greater financial reimbursement and influencing public policy to support obesity-related interventions. This is particularly important because childhood obesity rates continue to climb for the majority of children in America.2 Hispanic children in the United States are experiencing a disproportionate rise in weight and weight-related health problems,2 and Texas is experiencing a higher rate of obesity and related expenses than the rest of the country.3 This financial burden is accompanied by loss of productive adult years because life expectancy for obese children may be shortened by five to twenty years.5

For the first time in history, there is cause for global concern as overweight people now outnumber those who are undernourished and hungry.6 National rates for childhood overweight and obesity are high (28.2%); Texas childhood overweight and obesity rates (31.6%) surpass the national average.7 Compounding the problem is the large Hispanic population in Texas (38.2%), since Hispanic children are experiencing a disproportionate rise in weight and weight-related health problems.3,9 Co-morbidities affecting obese children negatively impact cardiovascular, gastrointestinal, renal, metabolic, musculoskeletal, reproductive, respiratory, and psychological health.10 There have been recent improvements in national obesity rates for children ages 2-5 years, but rates for all other ages continue to rise.2 Unfortunately, the ill effects of childhood obesity extend well beyond the childhood years because the risk of disease associated with obesity in adolescence remained a factor in adult health regardless of adult weight.11

The financial burden is accompanied by loss of productive years since life expectancy for obese individuals may be shortened by five to twenty years.1 Although obesity is a global health burden, Texas is experiencing a higher rate of obesity than the rest of the country.4 Susan Combs, Texas State Comptroller, issued a report which identified the problem and urged statewide interventions. Despite this action, the percent of overweight or obese Texans continued to rise to 66.7% in 2011.4 This increase in obesity, accompanied by the significant financial burden, has far-reaching implications that affect all segments of society. If current obesity trends in Texas continue, obesity-related expenses are predicted to cost Texas businesses $32.5 billion annually by the year 2030.4

Coordinated, sustained interventions for child health and nutrition programs that include healthcare, school, home, and community based interventions are in need because interventions that combine all four sectors are the most successful in reducing childhood obesity.12

Framework

The complexity of childhood obesity prevention and treatment interventions can be effectively addressed using core concepts of the Neuman Systems Model of Nursing (NSM). Central to NSM is the definition of the client as the individual as well as the surrounding family, group, and community.13 NSM also recognizes the need to address physical, psychological, sociocultural, developmental, and spiritual variables in the internal, external, and created environments.13 Combining the NSM with public-private partnerships aids in developing a comprehensive plan to meet the challenges associated with childhood obesity.

Public-Private Partnerships

Developing public-private partnerships, built through collaboration and innovation, can be effective in accomplishing health improvement by creatively leveraging community resources.14 The World Health Organization recognizes that public-private partnerships have many different forms and may be comprised of private businesses, governmental agencies, and community organizations of any size or legal status.13 Crucial elements for public-private partnerships include collaboration based on common interests and sharing of resources and skills.6,14 Public-private partnerships allow for coordination of services that reduce duplication of activities as a means of effectively utilizing resources.6 Public-private partnerships are also more likely to be successful in achieving public health goals than individual efforts.6 Childhood obesity interventions require actions in individual, family, community, and school based environments,12,18 making the development of public-private partnerships a logical endeavor.

METHODS

A family nurse practitioner experienced in the clinical management of pediatric obesity recruited representatives from varied backgrounds to develop a public-private partnership to address childhood obesity in Del Rio, a medically underserved Texas city on the border with Mexico. Children in this community comprise 29.4% (N=35,766) of the total mainly Hispanic (84.1%) population.16 The core team members represent the local hospital, school district, private business, faith community, and parents of obese children. A meeting was arranged to explore the need for a community-wide plan to address...
REFERENCES
Figure 1. CHANCE Logic Model

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Participation</th>
<th>Outcomes – Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholders*</td>
<td>CHANCE formal structure development</td>
<td>Stakeholders</td>
<td>CHANCE - community collaborative formation</td>
<td>Reduce childhood overweight and obesity by 10%</td>
</tr>
<tr>
<td>In kind donations from stakeholders</td>
<td>National Leadership Academy for the Public’s Health application</td>
<td>Leadership Team</td>
<td>National Leadership Academy for the Public’s Health participation</td>
<td>Grant funding</td>
</tr>
<tr>
<td>Advertising – newspaper, church bulletins, hospital website, stakeholder meetings</td>
<td>Evidence based interventions in physical activity, nutrition and built environment</td>
<td>Children and their families</td>
<td>CHANCE sponsored activity and nutrition events</td>
<td></td>
</tr>
</tbody>
</table>

Assumptions
Children, families and community desire healthy life.
Overweight and Obesity is undesired.

External Factors
Cultural norms must be considered.
Impact of national healthcare changes is unknown.

Quality Measures
Childhood overweight and obesity rates in school district
Reduction in school absences secondary to illness
Number of children participating in events
Number of participating stakeholders

*Stakeholders – individual children and their family, government (city, county and state), hospital, school district, faith-based community, Boys and Girls Club, youth sports leagues, WIC, law enforcement agencies, healthcare providers, newspapers, radio, private businesses, county agriculture department, military base, promotoras, border organizations

Figure 1 is adapted with permission from Taylor-Powell E, Steele S, & Douglah M. Planning a program evaluation. University of Wisconsin-Extension-Cooperative Extension, Program Development and Evaluation Unit Web Site. Copyright 1996 Board of Regents of the University of Wisconsin System.

Figure 2. Child Health, Activity and Nutrition Community Events (CHANCE) initial strategies to prevent and reduce childhood obesity

Leadership Committee
•Representative of schools, healthcare, private business, community organizations and faith based populations
•Provide leadership and oversight for subcommittees

Physical Activity Subcommittee
•Increase daily physical activity at home and school
•Promote community events (5k walks, guided hikes, sporting events)
•Decrease inactivity and reduce screen time

Nutrition Subcommittee
•Increase awareness of school district nutrition program
•Decrease consumption of sugar sweetened beverages
•Encourage breastfeeding
•Support local farmer’s market and fresh produce suppliers

Environment Subcommittee
•Advocate for safe walkways and common grounds
•Support creation of bike paths in community
•Increase availability of public access physical fitness structures in parks

Communication Subcommittee
•Develop marketing strategies
•Establish website
•Distribute newsletter highlighting events
•Increase awareness of childhood obesity and prevention strategies
In Memorium
Dr. Ron Anderson

Dr. Ron Anderson, former CEO of Parkland Hospital in Dallas passed away on Thursday, September 11, 2014 at his home in Duncanville from liver cancer. He was 68 years old.

Dr. Anderson was an life member of TPHA. More than that, Dr. Anderson was arguably public health’s greatest friend and advocate. Dr. Anderson’s passion for public health and to serve the less fortunate was not only admirable, but it also set the supreme example for those of us whom he left behind to carry on his legacy. He was the ideal example of a servant leader as well as an innovator. His main concern was that the people of Dallas, and especially those who were less fortunate, received the best possible health care. His steadfast commitment to the underserved in Dallas was stellar.

His career spanned well over three decades at Parkland. During his tenure at Parkland, He led many improvements there, eventually developing Parkland into the premiere facility for treating trauma and burns. Dr. Anderson also oversaw a successful bond election to build a new facility and just recently the Parkland Board of Managers unanimously approved a plan to honor Dr. Anderson with a commemorative statue in the new hospital and to name Parkland’s new medical/surgical outpatient clinic after Dr. Anderson.
About our Annual Education Conference

The Texas Public Health Association's Annual Education Conference offers a variety of oral presentations and posters on various public health topics including original research, program implementation and evaluation, community assessments, public health methods, theories, and issues relating to health promotion and disease prevention, public health nursing, outbreak investigations, disaster preparedness and response, epidemiology, biostatistics, environmental health, social determinants of health and social justice, population health, health administration, public health partnerships, public health accreditation, school health, aging, and health policies that affect individuals, groups, communities, and populations at any age or stage in life.

TPHA is a statewide community for discussion, sharing best practices, and networking among public health professionals in Texas. Learn more about TPHA at [http://www.texaspha.org/](http://www.texaspha.org/).
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