The *Outbreaks: Protecting Americans from Infectious Diseases* report, released by Trust for America’s Health (TFAH) and the Robert Wood Johnson Foundation (RWJF), finds the nation’s ability to prevent and control infectious disease outbreaks is hampered by outdated systems and limited resources. The report illustrates the threat we face from antibiotic-resistant Superbugs to *Salmonella* to the seasonal flu, including the impact on lives and communities. Fighting these diseases requires constant vigilance, but there are still major gaps in the country's ability to prevent, control and treat outbreaks, leaving Americans at an unacceptable level of unnecessary risk.

*Outbreaks* finds that a majority of states (32) score five or lower out of ten key indicators of policies and capabilities to protect against infectious disease threats. Three states tied for the lowest score, achieving two out of ten possible indicators – Georgia, Nebraska and New Jersey. New Hampshire had the highest score, at eight out of ten.

**Key Findings:**

- One-third of states do not require healthcare facilities to report healthcare-associated infections (HAI). Approximately one out of every 20 hospitalized patients will contract a HAI.
- Only one-quarter of states vaccinated at least half of their population against the seasonal flu.
- Only two states (Connecticut and Delaware) and Washington, D.C. meet the U.S. Department of Health and Human Services (HHS) goal of vaccinating at least 90 percent of preschoolers (19- to 35-month olds) against the whooping cough.
- Two-thirds of states decreased funding for public health from Fiscal Year (FY) 2011-12 to FY 2012-13.

**Recommendations:**

- **Countering antibiotic resistance by:**
  - Incentivizing development of new antimicrobial products, such as through creation of a limited population antibacterial drug (LPAD) approval pathway and public-private investments through the Biodefense Advanced Research and Development Authority;
  - Decreasing unnecessary prescribing of antibiotics through effective education and stewardship programs;
  - and reducing nontherapeutic use of medically important drugs in animal agriculture.
• **Improve access to life-saving vaccines through:**
  - First dollar coverage of recommended vaccines under Medicare Part B and Part D;
  - Strengthening immunization registries and data exchange;
  - Universal immunization of healthcare personnel with recommended vaccines;
  - Targeted outreach to the public and providers on the safety and effectiveness of vaccines.

• **Modernize disease surveillance by:**
  - Integrating disparate biosurveillance systems and ensuring interoperability of electronic health records and surveillance systems;
  - Supporting technological advances such as CDC’s Advanced Molecular Detection program;
  - Ensuring health departments can meet surveillance and response needs of their communities, including adequate health IT capabilities, integration with healthcare providers, and a trained workforce.

• **Enhance preparedness for major outbreaks and emergencies by:**
  - Supporting investment in CDC’s Public Health Emergency Program and HHS’ Hospital Preparedness Program, which support the fundamental capabilities of public health preparedness;
  - Supporting medical countermeasure research and development through the Biomedical Advanced Research and Development Authority (BARDA) and Project BioShield Special Reserve Fund;
  - Incorporating outbreak and emergency preparedness into the healthcare system, such as through CMS’ proposed emergency preparedness rules for Medicare and Medicaid participating providers;
  - Improving community resilience by creating healthier, more connected communities better able to withstand an emergency.

If you have any questions, please contact Dara Lieberman, TFAH’s Senior Government Relations Manager, at dlieberman@tfah.org.

*Trust for America’s Health is a non-profit, non-partisan organization dedicated to saving lives by protecting the health of every community and working to make disease prevention a national priority.*

www.healthyamericans.org
Outbreaks: Protecting Americans from Infectious Diseases

Jeffrey Levi, PhD
Congressional Briefing
February 28, 2014
Who We Are

- Trust for America’s Health (TFAH) is a non-profit, non-partisan organization dedicated to saving lives by protecting the health of every community and working to make disease prevention a national priority.
  - Outbreaks supported by a grant from the Robert Wood Johnson Foundation
Overview

- Fighting infectious diseases hampered by limited systems, policies and resources.
- States vary widely in capacity to respond and prevent infectious diseases.
- Need for a multi-sector, collaborative approach.
- Policy recommendations to address $120 billion problem.
New and old; domestic and global

- Emergence of never before seen viruses – H7N9, MERS-Cov
- Outbreaks of vaccine-preventable diseases, like measles and whooping cough
- Rising rates of drug resistance, including completely resistant bugs
- White House announced Global Health Security Agenda 2/14/14
Report highlights challenges

- Emerging threats
- Low vaccination and screening rates
- Too many unnecessary antibiotics
- Outdated technology: biosurveillance, research and diagnostic systems
- Building community resilience
- Public health and research cuts
State rankings reflect high needs

- Most states scored below 5/10
- High score – NH – 8/10; Low scores – GA, NE and NJ – 3/10
State findings (1)

- 1/3 do not require healthcare facilities to report HAIs
- 12 states vaccinated at least 50% against flu
- 2 states & DC vaccinated 90% of preschoolers against whooping cough
- Half of states have policies promoting HPV vaccine
State findings (2)

- 15 states have climate adaptation plans
- 1/3 of states do not cover routine HIV screening under Medicaid
- 2/3 of states cut public health funding
- Public health laboratories:
  - 13 states could not handle surge in testing
  - 46 states + DC have capacity to transport samples
  - 27 states evaluated continuity of operations
Recommendations (1)

- Strengthening fundamental capabilities
  - Workforce, modernized surveillance and lab capacity, new detection tools
- Support public health preparedness capabilities ("dual use")
- Increasing vaccine and screenings that help prevent disease or its spread
  - Counter complacency around HIV, hepatitis and TB
Recommendations (2)

- Counter antibiotic resistance
- Policies to reduce healthcare-associated infections
- Improve global coordination to prevent and contain new and existing threats
Questions?

- Please contact TFAH:
  - Becky Salay, Director of Government Relations – bsalay@tfah.org or 202-223-9870 ext. 15.
  - Dara Lieberman, Senior Government Relations Manager – dlieberman@tfah.org or 202-223-9870 ext. 20.
  - The full report can be found at www.healthyamericans.org
FIGHTING INFECTIOUS DISEASES AT THE LOCAL LEVEL

Trust for America’s Health Briefing
Outbreaks: Protecting Americans from Infectious Diseases

Gloria Addo-Ayensu, MD, MPH
Director of Health, Fairfax County

February 28, 2014
## Fairfax County Health Department

### Core Functions
- Prevent epidemics and the spread of disease
- Protect against environmental hazards
- Promote and encourage healthy behaviors
- Assure the quality and accessibility of health services
- Respond to disasters and assist communities in recovery

### Functional Partnerships
- Medical Reserve Corps
- Multicultural Advisory Council
- Northern Virginia Clergy Council for the Prevention of HIV/AIDS
- Community Champions
- Fairfax County Public Schools
- Fairfax County Agencies
Case for Maintaining Local Capacity

1955 Polio Vaccine Trial

2009 H1N1 Clinic

2013 Lee High School TB Investigation
Lee High School TB Investigation

- Background
  - December 2012
    - Individual from Lee High School diagnosed with active TB and contact investigation completed
  - June 2013
    - Two additional individuals from same school diagnosed with active TB
    - Health Department reopens December case

- Goal of TB Investigations
  - Determine exposure, whether transmission has occurred; and if so, prevent future cases of active TB
Lee High School TB Investigation

- Screening and Testing
  - 19 points of testing between June-Oct 2013
  - TB skin test (TST) is a 2-step process involving planting PPD and reading 48-72 hours later
  - Negative results require repeated testing 8-12 weeks after last exposure

TB contact investigation “Ring Approach”
Lee High School TB Investigation

Results

- Total of 2,277 students, faculty and support staff considered potentially exposed
  - 610 not enrolled at time of investigation
  - 96% of the currently enrolled and 77% of staff screened and tested
    - 235 tested positive for latent TB infection (LTBI)
      - All evaluated to rule out lung involvement and no new cases of TB found
      - 79% received preventive treatment and case management through Health Department; 8% through private provider
Lee High School TB Investigation

□ Summary

- No new cases of TB
- LTBI rates of US-born were five times the national average, an indication that some transmission of TB bacteria occurred at Lee High School

□ Resources

- Health Department staff – 10,000 hours
- Medical Reserve Corps – 780 hours
- Northern VA Health Department staff – 80 hours
Foundational Capabilities in Public Health

Paul Kuehnert, DNP, RN
Team Director and Senior Program Officer
Robert Wood Johnson Foundation

February 28, 2014
Ideal Public Health Department

Foundational Capabilities
Actual Public Health Department
IOM recommendations for a minimum package

• All levels of government should endorse the need for a **minimum package of public health services** that includes foundational capabilities and an array of basic programs that no health department should be without.

• Stakeholder process to determine elements of the Minimum Package, made up of foundational capabilities and basic programs

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The minimum package of public health services

\begin{enumerate}
\item Foundational capabilities
\item The basic programs\textsuperscript{12}
\end{enumerate}
Framework for the “Minimum Package”

Foundational Public Health Services

Additional Important Services

Foundational Programs

Foundational Capabilities

Across all Programs

--------------------

Foundational Public Health Services
Foundational Public Health Services

Programs/Activities Specific to HD/Community Needs

- Communicable Disease Control
- Chronic Disease & Injury Prevention
- Environmental Public Health
- Maternal Child Family Health
- Access to and Linkage w/Clinical Care

Foundational Capabilities

- Assessment (Surveillance, Epidemiology, and Laboratory Capacity)
- All Hazards Preparedness/Response
- Policy Development/Support
- Communications
- Community Partnership Development
- Organizational Competencies (Leadership/governance, Health equity, Accountability/performance management, IT, HR, Financial management, and Legal)
Examples of other important PH services

- WIC
- Clinical care services
- Breast and cervical cancer program
- Nurse Family Partnership
- Community Transformation Grants
- Public health research activities
Barriers to Immunization

Litjen (L.J) Tan, MS, PhD
Chief Strategy Officer, Immunization Action Coalition
Co-Chair, National Adult and Influenza Immunization Summit
Benefits of Immunization Are Clear

- Arguably one of the top public health interventions of all time
- Tremendous reduction in mortality and morbidity attributed to immunization
- Vaccine-preventable disease rates in children in the US have been dramatically reduced; some are close to eradication
- Vaccines save money as well as lives
- Increasing interest in disease prevention in US
  - Immunizations are an important preventive service
## Our Success! Historical Comparison of Morbidity and Mortality for VPDs

### Table 1. Historical Comparison of Morbidity and Mortality for Vaccine-Preventable Diseases With Vaccines Licensed or Recommended Before 1980: Diphtheria, Measles, Mumps, Pertussis, Poliomyelitis, Rubella, Smallpox, Tetanus

<table>
<thead>
<tr>
<th>Vaccine-Preventable Disease</th>
<th>Estimated Annual Average</th>
<th>Prevaccine No. (y)</th>
<th>Most Recent Postvaccine Reported No.</th>
<th>Prevaccine Estimated Annual No. vs Most Recent Reported No. (% Reduction)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Deaths</td>
<td>Cases</td>
<td>Deaths</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>21,053</td>
<td>1,822</td>
<td>30,508</td>
<td>30,565</td>
</tr>
<tr>
<td>Measles</td>
<td>530,217</td>
<td>440</td>
<td>763,094</td>
<td>552</td>
</tr>
<tr>
<td>Mumps</td>
<td>162,344</td>
<td>39</td>
<td>212,932</td>
<td>50</td>
</tr>
<tr>
<td>Pertussis</td>
<td>200,752</td>
<td>4034</td>
<td>265,269</td>
<td>7518</td>
</tr>
<tr>
<td>Poliomyelitis, acute</td>
<td>19,794</td>
<td>1,393</td>
<td>42,033</td>
<td>2,720</td>
</tr>
<tr>
<td>Poliomyelitis, paralytic</td>
<td>16,316</td>
<td>1,879</td>
<td>21,269</td>
<td>3,145</td>
</tr>
<tr>
<td>Rubella</td>
<td>47,745</td>
<td>17</td>
<td>488,796</td>
<td>24</td>
</tr>
<tr>
<td>Congenital rubella syndrome</td>
<td>152</td>
<td>Not available</td>
<td>20,000</td>
<td>2,160</td>
</tr>
<tr>
<td>Smallpox</td>
<td>29,005</td>
<td>337</td>
<td>110,672</td>
<td>2,510</td>
</tr>
<tr>
<td>Tetanus</td>
<td>580</td>
<td>472</td>
<td>601</td>
<td>511</td>
</tr>
</tbody>
</table>

*Footnote letters correspond to Box 1.*

Success in pediatric immunizations

• Still the social norm to immunize our children
  – Preventive care model is dominant in a strong medical home

• School entry requirements are important to maintaining high immunization coverage rates
  • Exemption rates remain below 2% nationally although some states are higher

• Infrastructure that supports the pediatric immunization program remains fragile
Vaccine-specific coverage* among children 19-35 months, NIS, 1994-2011

* The Healthy People 2020 target for coverage is 90% for all vaccines with the exception of rotavirus (80%) and HepA (85%).
† DTP (3+) is not a Healthy People 2020 objective. DTaP (4+) is used to assess Healthy People 2020 objectives.
Challenges remain in other populations

• Preschoolers ages 19 – 35 months
  – While rates in some vaccines (MMR, varicella, polio, rotavirus) are above 90%, rates are below 90% for Hep B, DTaP, PCV, and the complete childhood series.
  – Children in poverty were more likely to not receive all vaccines

• Adolescents
  – MCV and HPV coverage rates are particularly bad

• Adults!
Burden of Adult Vaccine-preventable Disease Among U.S. Adults

- **Invasive pneumococcal disease (IPD)**\(^1\)
  - 39,750 total cases and 4,000 total deaths in 2010
  - 86% of IPD and nearly all IPD deaths among adults
- **Influenza**\(^2\)
  - 3,000 to 49,000 total related deaths per year
  - ~90% among adults 65 years and older
- **Pertussis**\(^3\)
  - 41,880 total reported cases 2012
  - ~9,000 among adults
- **Hepatitis B**\(^4\)
  - 3,350 acute cases reported 2010
  - 35,000 estimated
- **Zoster**\(^5\)
  - about 1 million cases of zoster annually U.S.

---

### Cost Burden of 4 Adult Vaccine Preventable Diseases to the U.S.

#### 2010 US Census

<table>
<thead>
<tr>
<th>Disease</th>
<th>Age Group</th>
<th>Est. Cases</th>
<th>Est. Direct Cost (per case)</th>
<th>Est. Indirect Cost (per case)</th>
<th>Est. Total Cost (per case)</th>
<th>Est. Total Cost (all cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>≥18</td>
<td>14,800,993 a</td>
<td>140 b</td>
<td>377 b</td>
<td>517</td>
<td>$7,652,113,319</td>
</tr>
<tr>
<td>S. Pneumoniae</td>
<td>≥50</td>
<td>559,207 c</td>
<td></td>
<td></td>
<td></td>
<td>$4,563,871,132</td>
</tr>
<tr>
<td>Bacteremia</td>
<td>≥50</td>
<td>29,628 c</td>
<td>23,568 d</td>
<td>1,297 d</td>
<td>24,865</td>
<td>$736,696,394</td>
</tr>
<tr>
<td>Meningitis</td>
<td>≥50</td>
<td>1,883 c</td>
<td>29,995 d</td>
<td>1,390 d</td>
<td>31,385</td>
<td>$59,095,033</td>
</tr>
<tr>
<td>NPP (inpatient)</td>
<td>≥50</td>
<td>207,314 c</td>
<td>15,569 d</td>
<td>1,014 d</td>
<td>16,584</td>
<td>$3,438,040,889</td>
</tr>
<tr>
<td>NPP (outpatient)</td>
<td>≥50</td>
<td>320,382 c</td>
<td>549 d</td>
<td>481 d</td>
<td>1,030</td>
<td>$330,038,816</td>
</tr>
<tr>
<td>Herpes Zoster</td>
<td>≥50</td>
<td>675,019 e</td>
<td>1,034 f</td>
<td>2,636 f</td>
<td>3,670</td>
<td>$2,477,318,929</td>
</tr>
<tr>
<td>Pertussis</td>
<td>≥18</td>
<td>412,833 g</td>
<td>395 h</td>
<td>542 h</td>
<td>937</td>
<td>$386,824,301</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>17,007,258</strong></td>
<td></td>
<td></td>
<td></td>
<td>$15,080,127,681</td>
</tr>
</tbody>
</table>

NPP is non-bacteremic pneumococcal pneumonia caused by *S. pneumoniae*.

'NPP inpatient' refers to cases of NPP that require hospitalization where as 'NPP outpatient' refers to cases of NPP that do not require hospitalization.

All costs were adjusted to 2010 U.S. dollars.

~$15 billion annually – based on zoster, pneumococcal disease, influenza, and pertussis

Ramifications exist when we fail to vaccinate adults...

- Beyond the impact to the health of the public, our ineffectiveness in immunizing adults:
  - Creates disincentive for manufacturers to enter the market
  - Leaves chronically ill vulnerable
    - Failure to include immunizations as part of adult preventive care for those chronically ill
  - Creates disparities in access to care
    - Absence of commitment exacerbates existing barriers to immunization for those in the lower socio-economic strata and for the racial and ethnic minorities
Other Ramifications Exist

• “By failing to prepare, we are preparing to fail”
  - Benjamin Franklin
• Leaves us vulnerable during times of crisis when the ability to reach 250 million adults with vaccines/medications is crucial
  • Pandemic influenza
• Our failure to successfully immunize adults in healthy times predicts our failure to immunize them in times of crisis…
Barriers to high immunization coverage rates

• Limited patient awareness and misunderstanding about vaccines reduces demand for vaccinations
  • School entry requirements remain the most important tool for maintaining high coverage rates

• Access challenges remain
  • Rural and underserved areas; who can vaccinate?

• Fewer public health resources for adult immunization
  • Pediatric purchases on federal contracts in Dec 2010-Dec 2011: $3,535 billion (including both VFC and 317 program funds); Adult vaccine purchases: $44 million (317 only)
  • However, immunization infrastructure remains significantly under-funded
  • Despite ACA, uninsured adults remain
Barriers to high immunization coverage rates

- Competing social and economic demands among teens and adults
- Competing demands for providers’ time and payment is not guaranteed to be adequate
  - ACA improves access but adequacy of payment remains uncertain
- Pediatric and adult vaccine schedules are complex
- Documentation systems for immunizations remain challenged
  - In adults, vaccination is often not integrated into medical care practice and documentation of immunization not adequate
  - Pediatric registries’ data are not easily shared
Improving immunization coverage rates...

1. Drive demand by improving valuation (eg, via education, outreach, correcting myths)

2. Improve access to all vaccines by:
   a) Ensuring supply and delivery by improving infrastructure;
   b) Tracking and monitoring demand for, and supply, of vaccine
   c) Creating collaborative provider relationships and public-private partnerships to facilitate/promote immunization, and by multiple provider types
   d) Ensure lifespan IIS are implemented and integrated with EHRs
   e) Improve systems-based interventions to eliminate missed opportunities to vaccinate

3. Ensure adequate payment
So What Does the ACA Mean for Immunizations?
ACA Impact - Challenges Remain

For private insurance: Out-of-Network Providers

• If payment becomes less of an issue, access to vaccinations becomes primary barrier to coverage.
  – Increase access points for getting vaccinated
    • All providers of care for adults have a responsibility to assess, counsel, recommend, and if feasible, deliver the vaccine
    • Need to improve the number of in-network providers

• Complementary immunizers such as pharmacists, school-based clinics or public health clinics are considered out-of-network providers and thus ACA provisions do not apply
  – CDC “biilables” project – making public health departments in-network providers.
ACA Impact - Challenges Remain

Medicaid Expansion

• Expansion and implementation of the Exchanges will be extremely varied given the variability in states’ participation.

• “Traditional” Medicaid adult enrollees (in states that opt out of expansion) will not be protected by the ACA provisions
  – About 20 million non-elderly persons comprising pregnant women, parents/caretakers of dependent children, low income parents, working age adults with disabilities.
  – Immunization is optional preventive service for adults
  – Need to advocate for immunization inclusion in Medicaid and Exchanges
ACA Impact - Challenges Remain

Medicaid Primary Payment Increase

- Implementation of the payment increase may be slow in the states
  - Also states having varying processes for retroactive payment
- Certain immunizers are left out of the bump up including Ob-Gyns and pharmacists.
- Results need to be measured so that we can advocate for permanent installation of the payment increase
ACA Impact - Challenges Remain

- Public Education about cost-free vaccinations is necessary.
- Provider Outreach remains critical
  - They may not know who is covered
  - Complexities of coverage still remain, at least through 2014
  - Educate on the provider immunization incentives as part of ACA
- Health information technology
  - Integrating existing IIS into EHRs and meaningful use becomes critical with more providers
ACA Impact - Challenges Remain

• ~22 million will remain uninsured so public health safety nets are still necessary

• Improved access for the newly insured but...
  – Disproportionately lower income and residents of medically underserved communities

• How do health plans implement new coverage once added?
  – While payment may not be an issue, adequacy of provider payment for vaccines and administration remains?

• Continuing Medicare B/D challenge