

Health Data Compliance and Communication Analysis for Texas Respiratory Virus Data

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Summary

The Texas Department of State Health Services (DSHS) is tasked with surveillance and reporting on respiratory viruses, including COVID-19, Influenza (Flu), and Respiratory Syncytial Virus (RSV). In compliance with health data regulations, DSHS communicates these findings to external stakeholders. This project seeks to uncover the data compliance protocols, data collection techniques, dataset components, and strategies for stakeholder engagement employed by DSHS.

Introduction

In the healthcare sector, data compliance and effective communication play important roles in ensuring quality care delivery, patient safety, and regulatory adherence. Compliance with data protection laws and regulations is crucial to safeguarding patient information and maintaining trust. Effective communication is essential for promoting transparency and sharing critical health information.

The scope of this project includes an in-depth examination of data compliance practices, data collection methodologies, and potential stakeholder employed by the DSHS. The Texas Respiratory Virus Surveillance Report from week 39 and associated Texas respiratory virus data will be used for this project.

Data Collection and Analysis

The Texas Respiratory Virus Surveillance Report utilizes data submitted by providers through various systems such as the U.S. Outpatient Influenza-like Illness Surveillance Network

(ILINET), National Respiratory and Enteric Virus Surveillance System (NREVSS), etc. The Texas Respiratory Virus Surveillance Report identifies the sources of data for all three respiratory viruses along with any circumstances that may hinder the accuracy of the data.

Influenza Data Collection and Analysis:

- Hospital laboratories across Texas contribute influenza data, including results from antigen, culture, and PCR testing methods.
- Analysis involves comparing the percentages of patients testing positive for influenza, presenting with influenza-like illness (ILI), and experiencing influenza-related mortality.
- Insights on influenza type distribution, patient visits, mortality rates, and visual representations of influenza activity are included in the analysis.

Respiratory Syncytial Virus (RSV) Monitoring:

- Texas utilizes a passive surveillance approach for monitoring RSV, with data submitted through the NREVSS system.
- Similar to influenza data, RSV data includes results from antigen and PCR testing, with a focus on the number and percentage of positive tests.

COVID-19 Data Collection and Analysis:

- Reporting of COVID-19 cases to the DSHS is currently voluntary, with data sourced from the CDC, Texas DSHS Vital Statistics, COVID-19-Associated Fatalities, and the National Electronic Disease Surveillance System (NEDSS).

- Analysis covers case counts, mortality rates, and COVID-19 variants, which are visualized for clear presentation.
- Data cleaning procedures address potential issues such as duplicate case reports, out-of-state cases, and post-report date entries to ensure data accuracy.

The DSHS and health laboratories must comply with various data regulations to ensure the accuracy, confidentiality, and security of health-related information. Pertinent regulations may include the following:

- HIPAA (Health Insurance Portability and Accountability Act)- HIPAA is a federal law that sets standards for protecting sensitive patient health information. This regulation ensures the confidentiality and security of personal health data in healthcare settings, including laboratories.
- CLIA (Clinical Laboratory Improvement Amendments)- CLIA regulates laboratory testing and requires clinical laboratories to meet certain quality standards to ensure the accuracy and reliability of test results.
- HITECH Act (Health Information Technology for Economic and Clinical Health Act)- The HITECH Act promotes the adoption and meaningful use of health information technology. It includes provisions for the security and privacy of electronic health information, which is relevant to health laboratory data management and communication.

By adhering to these data compliance regulations and standards, the DSHS and Texas health laboratories can ensure the integrity, confidentiality, and security of data.

Data Dictionary

The data used in the Texas Respiratory Virus Surveillance Report does not appear to be publicly available. Instead, the downloadable data from the Texas Respiratory Illness Interactive Dashboard page was analyzed.

Data dictionaries defining key terms, descriptions, and notes were included in the following datasets:

1. Trends in Viral Respiratory Deaths in Texas
 - a. Key Terms: PERC_COVID, PERC_RSV, PERC_INFLUENZA, WEEK_ENDING
 - b. The descriptions of the first three key terms explained how the values for the key terms were calculated. Values were shown as a percentage of reported deaths for each virus. The last key term indicated the date of the saturday of the week.
2. Trends in Deaths for Viral Respiratory Illness, by Age
 - a. Key Terms: Respiratory_Illness, AGE00_17_PERCENT, AGE18_64_PERCENT, AGE_65PLUS_PERCENT, WEEK_ENDING,
 - b. The first key term identifies the percentage of all reported deaths that are contributed to a combination of all three respiratory illnesses, The next three key terms identify percentages of each age group. The last key term indicated the date of the saturday of the week.

Potential Stakeholders

Effective communication to stakeholders is critical for transparency, decisions making, risk management, regulatory compliance, aligning expectations, and quality improvement. Some key stakeholders of the Texas Respiratory Virus data may include:

1. Texas Department of State Health Services (DSHS)- The agency responsible for collecting, analyzing, and reporting respiratory virus data in Texas.
2. Public Health Officials- Local, state, and federal public health authorities who rely on the data to monitor disease patterns, respond to outbreaks, and implement public health interventions.
3. Healthcare Providers- Hospitals, clinics, laboratories, and healthcare professionals who contribute data, utilize the information for patient care decisions, and collaborate on public health initiatives.
4. Laboratory Personnel- Professionals involved in laboratory testing and analysis of respiratory virus samples, ensuring the accuracy and quality of test results.
5. Research Institutions- Academic researchers, epidemiologists, and public health researchers who utilize the data for studies, publications, and advancing scientific knowledge.
6. Healthcare Consumers- Patients and the general public who benefit from public health efforts informed by the data, such as vaccination campaigns, disease prevention strategies, and health advisories.

These stakeholders play various roles in the collection, analysis, interpretation, and application of respiratory virus data in Texas, contributing to public health efforts, disease surveillance,

healthcare decision-making, and community well-being. Effective communication and collaboration among these stakeholders are essential for leveraging the data to its fullest potential and ensuring the health and safety of the population.

Recommendations

The DSHS plays a pivotal role in monitoring and reporting on respiratory viruses affecting the population. To strengthen the management of Texas Respiratory Virus data, it is imperative for the DSHS to continually enhance data collection methods and analysis practices. This section provides a set of strategic recommendations designed to optimize data collection processes, enhance analytical capabilities, and foster collaboration among stakeholders.

- **Implement Real-Time Surveillance-** Invest in real-time surveillance systems that enable the timely detection and monitoring of respiratory viruses. Predictive analytics can also be implemented to forecast potential outbreaks and allocate resources proactively.
- **Enhance Stakeholder Engagement-** Engage with stakeholders to gather feedback on data needs and usage. Create a culture of collaboration and transparency in data collection and analysis processes. Increased accessibility of raw data to students and researchers may create a healthy interest in analyzing healthcare data.
- **Utilize New Technologies-** Explore the use of emerging technologies such as machine learning and big data analytics to enhance respiratory virus data analysis. Innovative solutions can be used for deeper insights and predictive modeling.

By implementing these recommendations, the DSHS can bolster its ability to detect, monitor, and respond to respiratory virus outbreaks effectively.

Conclusion

In conclusion, effective management and analysis of Texas Respiratory Virus data are crucial components of public health surveillance and response initiatives overseen by the DSHS. By examining the data compliance protocols, collection methodologies, dataset components, and key stakeholders involved in the process at DSHS, a deeper comprehension of the integral roles of data collection, compliance, and analysis can be attained.

References

Texas Department of State Health Services. 2024. Texas Respiratory Virus Surveillance Report.

https://www.dshs.texas.gov/sites/default/files/IDCU/disease/respiratory_virus_surveillance/2024/2024Week39TRVS-Final-pubOct04.pdf