

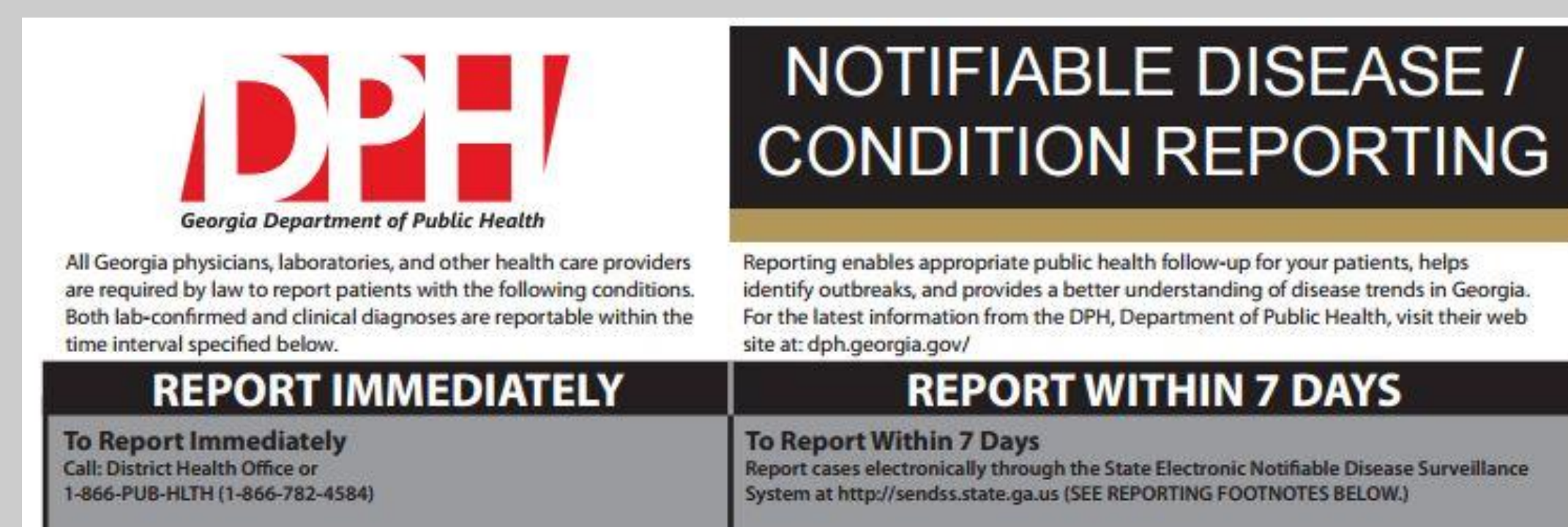


# Timeliness of Notifiable Disease Reporting In the North Central Health District

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## BACKGROUND

All Georgia physicians, laboratories, and other health care providers are required by law (OCGA 31-12-2) to report patients with the conditions listed under Notifiable Disease Reporting Requirements. Both laboratory confirmed and clinical diagnoses are reportable within the specified time intervals. Disease reporting enables public health follow-up for patients and helps identify outbreaks. This is particularly important to do in a timely way for any disease or condition that may require immediate public health intervention. Disease reporting also provides a better understanding of disease trends and patterns in Georgia to support program and policy decision-making and resource allocation.



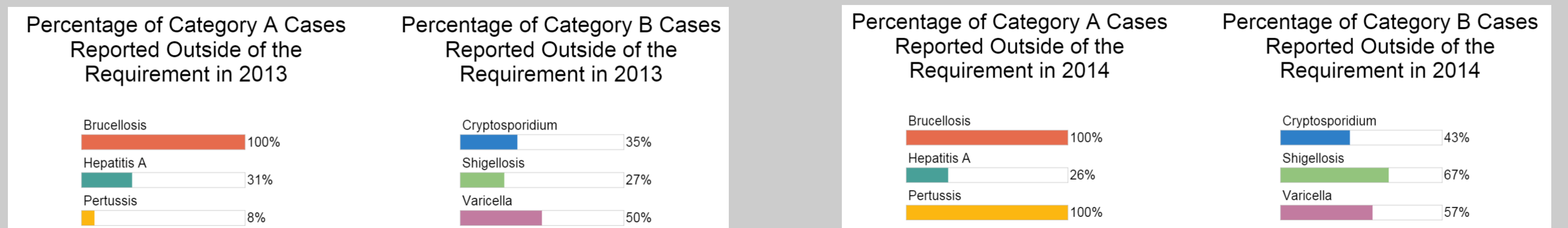
## METHOD

For data analysis purposes, we placed reportable conditions into two categories. Category 1 requires an immediate notification (within 24 hours) per the notifiable disease reporting requirements. These conditions have this requirement of reporting to public health because of associated severity and potential for epidemic spread. Category 2 requires notification within 7 days of lab confirmation or clinical diagnosis in order to avert future health problems. We selected illnesses based on their category and the amount of cases that were reported in 2013 and 2014 with the requirement that each category be represented. The diseases/conditions that were chosen were: Brucellosis, Acute hepatitis A, and Pertussis from category 1; and Cryptosporidiosis, Shigellosis, and Varicella from category 2.

Data for this report was obtained from the State Electronic Notifiable Disease Surveillance System (SendSS). Information for the years 2013 and 2014 was pulled from the Dynamic Reports Module of SendSS that included the following data points: date reported to the public health district, earliest lab date, and the entity that first reported the condition. Reportable conditions were calculated using a date duration calculator from timeanddate.com to estimate the number of days from the earliest clinic/lab date to the date reported to the health district (timeanddate.com, 2015). This calculation yielded the lag reporting time in days. For cases that had no date for earliest lab or public health notification, the date of original entry into SendSS was used to estimate the reporting lag time. The calculated lag time was used to procure specific mean and median lag times of cases based on disease, location and year of data. For the years 2013 through 2014, the average amount of reported days for each disease was estimated by adding all the lag times per case and divided by the total number of cases. This same approach was uniformly applied to all diseases, for accuracy and precision.

## RESULTS

In 2013, 118 cases were reviewed, with 45 cases belonging to category 1 and the remaining 73 cases to category 2. In 2014, 113 cases were reviewed, with 37 cases belonging to category 1 and the remaining 76 cases to category 2.



In 2013, Brucellosis had a median and mean of 12 days, with 100% of cases reported outside of requirements. Hepatitis A had a median and mean of 6 and 26 days, with a 31.25% of cases reported outside of requirements. Pertussis had a mean and median of 4 and 5 days, with 8% of cases reported outside of requirements. Cryptosporidium had median and mean of 14, with a 34.69% for cases reported outside of requirements. Shigellosis had a median and mean of 13 and 15 days, with a 27.27% of cases reported outside of requirements. Varicella had a median and mean of 8 days, with 50% of the cases reported outside of the requirements. In 2014, Brucellosis had a median and mean of 27 days, with 100% of cases reported outside of requirement. Hepatitis A had a median and mean of 4 and 8 days, with a 25.93% of cases reported outside of requirement. Pertussis had a median and mean of 6 days, with 100% of the cases reported outside of requirements. Cryptosporidium had a median and mean of 9 and 21 days, with a 42.86% for cases reported outside of requirement. Shigellosis had a median and mean of 6 and 11 days, with a 66.67% cases reported outside of requirements. Varicella had a median and mean of 4 and 6 days, with 57.14% of the cases reported outside of the requirement.

## DISCUSSION

For category 1 diseases reported in 2013 and 2014, Brucellosis had an average reporting time of 22 days, for Hepatitis A, it is 19 days, and Pertussis had an average of 6 days. Based on this information, none of the category 1 conditions met the immediate notifiable timeline requirement since all average days exceed 1 day. Note that Pertussis was the closest condition to meeting the reporting requirement as the percentage of cases reported within the timeframe in 2013 was 92%. For category 2 diseases reported in 2013 and 2014, Cryptosporidium had an average reporting time of 18 days, for Shigellosis, it is 13 days. Of the category 2 conditions reviewed, only Varicella met the 7 days notification requirement with an average reporting time of 6 days. However, 57.14% of Varicella cases did not meet the designated time, showing that the majority of cases reported are still outside of the requirement.

## LIMITATIONS

Several limitations were encountered upon close interpretation and analysis of results. First, the data collected may not reflect true levels of disease in the community due to under-reporting. Also, the data may not be complete due to missing variables. Additionally, the website used for analyzing the time difference has not been tested for accuracy, therefore the analysis may contain technical inaccuracies or typographical errors.

## CONCLUSION

With any reportable disease or condition that is not reported timely, there is an increased risk to the general public of an outbreak that may have been preventable. According to the results of this study public health should focus on how to bridge these reporting lag time gaps. To achieve this, further study is needed to understand why conditions are not reported at the right time and identify gaps in the health industry on the knowledge of reporting requirements to public health.

## REFERENCES

- 1) Georgia Department of Public Health (DPH). (2015). *Epidemiology: Disease reporting*. Retrieved from: <https://dph.georgia.gov/disease-reporting>
- 2.) Timeanddate.com. (2015). *Calculation duration between two dates*. Retrieved from: <http://www.timeanddate.com/date/duration.html>

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