

Using a Caseload Analysis to Reallocate Disease Intervention Specialists (DIS) in Louisiana

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Major Conclusion

The reallocation of Disease Intervention Specialists (DIS) across Louisiana in Y2016 that was informed by the caseload analysis described below led to a significant decrease in regional DIS caseload disparity. The three regions in Louisiana with the highest DIS caseloads in Y2014, and overall highest numbers of Partner Services cases, experienced a 26%-49% decrease in DIS caseload after reallocation of DIS resources. It is expected that these improvements regional DIS caseload disparity will lead to improvements in case quality and timeliness of DIS follow-up for Louisiana's Partner Services intervention.

Purpose

In 2014, the Louisiana STD/HIV Program conducted statewide assessments to review staffing levels, performance measures, and case quality of Disease Intervention Specialists (DIS) across the state of Louisiana. We found that high morbidity areas reported very large caseloads, which negatively impacted the quality and timeliness of DIS follow-up. High morbidity areas such as New Orleans, Baton Rouge, and Shreveport were especially impacted by overburden of syphilis and HIV cases. A DIS caseload analysis was done in April of 2015 to examine how caseload was distributed across all nine public health regions. The Louisiana STD/HIV Program reallocated and hired several staff members based on the results of the caseload analysis.

Methods

$$y = \frac{1}{n} \sum_{i=1}^n x_i \frac{1}{D_i}$$

Equation 1: Average Quarterly DIS Caseload

$$D_{\text{Needed}} = x_{\text{region}} y_{\text{state}}$$

Equation 2: Number of DIS Needed

$$DI = D_{\text{needed}} - D_{\text{current}}$$

Equation 3: DIS Deficit Index

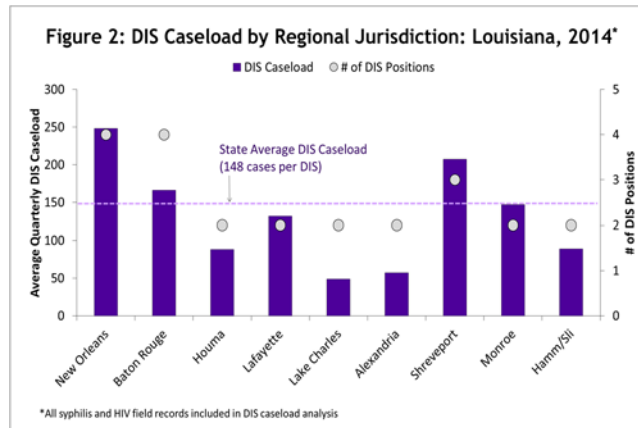
y = average quarterly DIS caseload
 n = number of quarters
 i = quarter
 x = number of field records*
 D = number of DIS
 DI = DIS deficit index

*Must determine what type of Partner Services field records are applicable

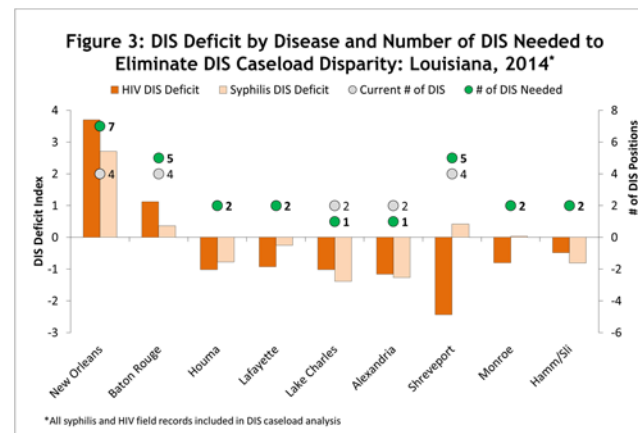
In the initial caseload analysis (Y2014), the total number of syphilis and HIV field records initiated per quarter was used to determine DIS caseloads. In subsequent analyses (Y2015-Y2016), late syphilis and previous HIV positive field records were excluded as these field records typically require little to no follow-up effort from DIS.

Initial DIS Caseload Analysis

An initial regional DIS caseload analysis was conducted in 2014 to assess DIS caseload burden by region.



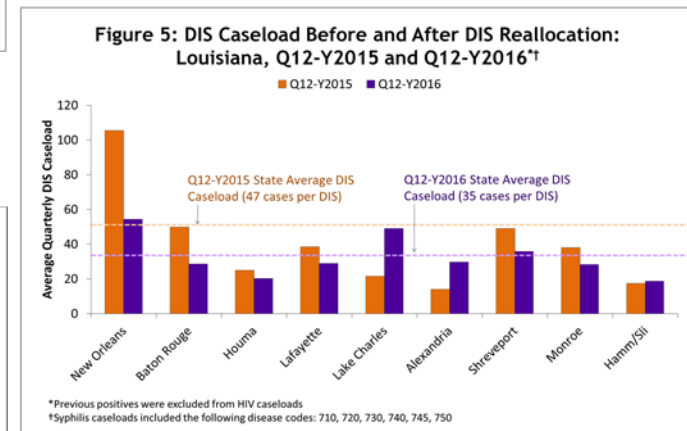
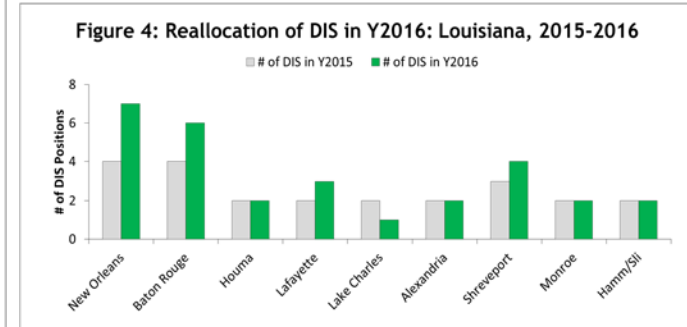
- DIS in New Orleans, Shreveport, and Baton Rouge had the largest caseloads during 2014, respectively, compared to DIS in the remaining regions. These regions also had the highest overall number of cases.



- In order to maintain the state average DIS caseload, New Orleans would have to add 3 additional DIS, Baton Rouge would have to add 1 additional DIS, and Shreveport would have to add 2 additional DIS.

Impact of DIS Reallocation

In 2016, DIS were reallocated across the state in order to reduce the caseload disparities seen in the previous workload analysis.



Discussion

The caseload analysis proved to be a valuable tool to determine DIS allocation in Louisiana. In 2016, the Louisiana STD/HIV Program hired two additional DIS in the New Orleans region, which decreased the DIS caseload by 49%. The STD/HIV Program reallocated a DIS from the Lake Charles region to the Baton Rouge region, which decreased the DIS caseload by 42%. However, the caseload analysis also found that removing a staff member from the Lake Charles area increased their caseload by 53%. Other regions that were found to have adequate staffing in 2015, continued to maintain a manageable caseload.