

MI-Support: Project Brief

Project Name: STI Report Automation for Washtenaw County Health Department

Project Team: Jules Gilbert, Stephanie Iorga, Marisa Eisenberg, Kate Steffes, Chelsi Preuc [WCHD]

Project Date: 2/20/2025-4/11/2025

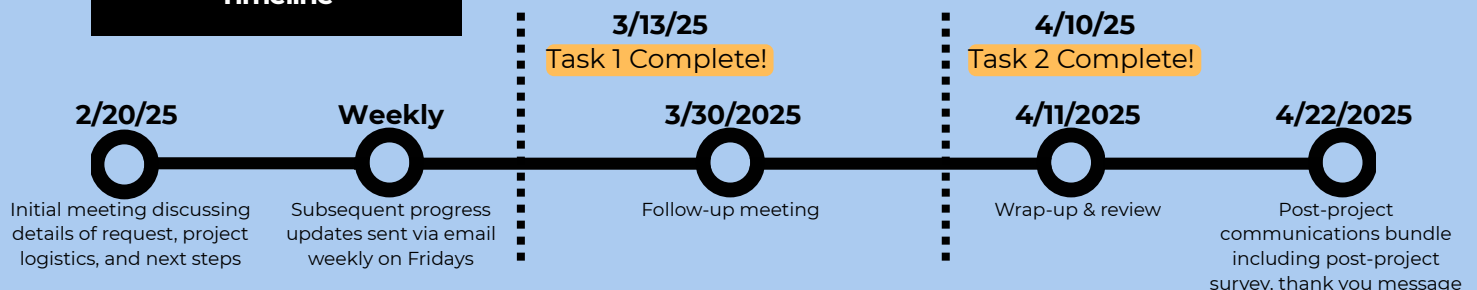
Summary

Chelsi Preuc, an epidemiologist at Washtenaw County Health Department, requested MI-Support assistance with developing an automated report for STI data. Previously, she manually extracted STI data from MDSS and conducted analyses in Excel for an internal dashboard - a process that typically took an hour. MI-Support partnered with WCHD to develop an automated report and dashboard, significantly improving efficiency and saving time.

Objectives

1. Replicate the STI disease report from Excel in R, ensuring all tables, columns, graphs, and calculations match the provided samples, and render it as a Quarto document.
2. Incorporate wishlist items including maps, timeseries plots, and additional tables and visualizations to provide more interpretability of the case data, and help WCHD visualize STI case changes over time.
3. Annotate all functions, the disease report, and README. Ensure the report is user-friendly for basic R users and adaptable beyond WCHD or STIs.

Timeline



Outcomes

- Development of a more efficient process for the Washtenaw County Health Department, reducing STI report completion time from 58 minutes to 10 minutes.
- Code written to be applicable for other diseases of interest and for other LHDs
- Survey indicating high satisfaction, with LHDs likely to reuse the dashboard, recommend the program, and commend team communication

Deliverables

- A zip file containing the code and files necessary for running the report
- A README pdf, with up to date documentation
- A qaqc_session.xlsx file containing a new "timing comparison" sheet
- A faux_data.zip containing a "fake" .html file report version (to be able to share with other health departments) as well as two datasets containing fake data, that were used to generate the fake report



MICOM

✉ MICOM-MISUPPORT@UMICH.EDU

🌐 MICOM-INSIGHT.NET

Disease Report

Generated on 2025-04-10

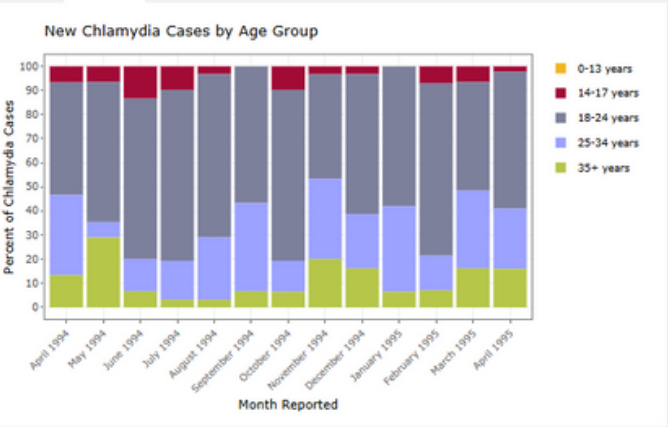
Chlamydia

Cases by Age Group

This section contains stacked bar plots of cases by age group, per month. There is a tab for the total count of cases per month, as well as a tab depicting the proportion of total cases made up by each age group. Lastly, this section produces a table with the total case counts per age group, formatted for easy copy and pasting to update the HIV & ST Data Vitepage.

Click here to expand/collapse the plots

Counts Percents



Click here to expand/collapse the table

Dashboard Internal Tables

This section contains a main dashboard table with case information by MDSS Assignment and month, alongside a smaller table outlining the total number of closed case counts by MDSS Assignment and month, including female cases, and cases with pregnancy status. The main table includes total counts related to cases received, cases with unknown status, cases treated, and closed cases treated. And, the percent of cases treated, closed cases treated, closed cases with facility type, closed cases with pregnancy status, total cases closed.

Click here to expand/collapse the table

Chlamydia Internal Dashboard									
Assignment in MDSS	Total # of Cases Received	# of Cases with 'Unknown' Case Status	# of Total Cases Treated (%)		# of Closed Cases Treated (%)		% Of Closed Cases with Facility Type Selected in Detail Form	% Of Closed Female Cases with Pregnancy Status (Y/N)	% Of Cases Closed
			Count	Percent	Count	Percent			
Apr-95									
Epi Team	28	0	21	75%	10	83%	67%	56%	43%
Nursing	16	0	16	100%	7	100%	86%	60%	44%
Overall	44	0	37	84%	17	89%	74%	57%	43%
Mar-95									
Epi Team	28	0	24	86%	19	90%	62%	38%	75%
Nursing	3	0	3	100%	3	100%	0%	0%	100%
Overall	31	0	27	87%	22	92%	54%	36%	77%

Click here to expand/collapse the table

Case Maps by Zip Code

This section contains maps of cases by zip code for a given month. The image is interactive, can be zoomed in and out to view county boundaries, and zip codes can be clicked on to produce a pop-up containing case count details.

Click here to expand/collapse the map set

Most Recent One Month Ago Two Months Ago

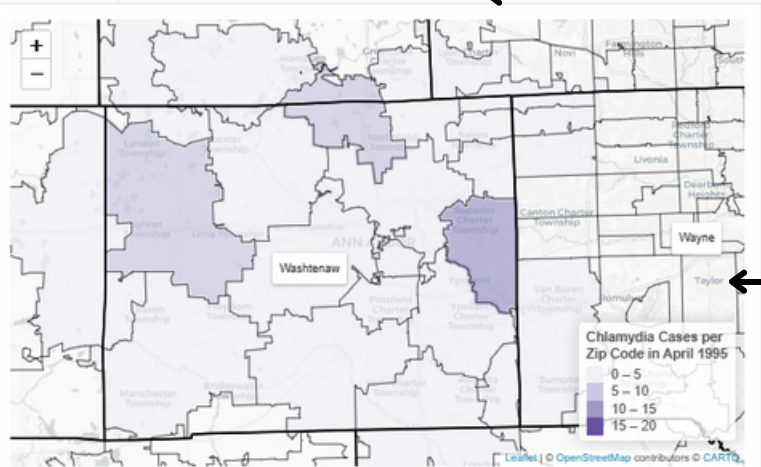


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- Gonorrhea

Disease Report Snapshot

(Example generated using simulated data)

Organized by Disease, then broken down into tables and visualizations

Detailed descriptions of each table and figure can be found above each section, to help provide additional context

All sections are collapsible to provide an easier user experience!

Related visualizations are found in tabs for convenient access

Interactive maps and plots!