

AITT Peer-to-Peer

June 19, 2019



Jennifer Hoang, Kate Arnow, Karen Pfister, Rachel Curtis-Robles, Tiffany Tsukuda, Corina Chung



**SAN MATEO
COUNTY HEALTH**

Adaptive Challenge

San Mateo County Health
Daily Situation Awareness Tool

Daily Situational Awareness Tool (DSAT)

- Long history of use in our health department sent out daily via PDF attached to email
- Overall daily snapshot of a variety of indicators
 - ED census
 - EMS calls of interest
 - Pharmacy sales of certain OTCs
 - Poison control calls
 - Coroner data
 - CDC alerts
 - Weather forecasts
- Audience – Health Officer, assistant health officers, public health director, communicable disease, environmental health, EMS

Daily Situational Awareness Tool: June 07, 2019			
Overall Alert Level:		LOW	
ED Census:		<u>Alert Level</u> =	583 Note
Green	≤ 2 Standard deviations		
Yellow	> 2 and < 3 Standard deviations		
Red	> 3 Standard deviations		
First Watch:		<u>Alert Level</u> =	
Green	No alerts		
Yellow	Alerts not pursued		
Red	Pursued alerts		
RODS: <i>unpromoted sale counts of antidiarrheal, cough/cold, thermometers</i>		<u>Alert Level</u> =	
Green	≤ 1.5 Standard deviations above previous week's average		
Yellow	1-2 days > 1.5 Std. Dev.		
Red	2+ days > 1.5 Std. Dev.		
Poison Control: <i>unintentional poisoning incidents reported</i>		<u>Alert Level</u> =	7
Green	≤ 2 Standard deviations		
Yellow	> 2 and < 3 Standard deviations		
Red	> 3 Standard deviations		
Unexplained Deaths:		<u>Alert Level</u> =	0
Green	0 - 3 unexplained deaths		
Yellow	4 - 5 unexplained deaths		
Red	6+ unexplained deaths		
SFO Surveillance:		<u>Alert Level</u> =	
Green	No alerts		
Yellow	Alerts not pursued		
Red	Public health intervention required		
Maximum Temperature* Two-Day Forecast Redwood City:		<u>Alert Level</u> =	No Excessive Heat
Green	No forecast of excessive heat		06/07/2019 = 75 °F
Yellow	Excessive heat event within 48 hours (high > 95° and low > 75°)		06/08/2019 = 86 °F
Red	Current excessive heat for at least 2 days (high > 95° and low > 75°)		06/09/2019 = 95 °F
			06/10/2019 = 94 °F
National Weather Service Alert: None *Data from NOAA National Weather Service.			
Notes: ED census - Kaiser RWC census is greater than average +2SD			
Alert Levels:			
LOW			
MEDIUM			
HIGH			



How everyone thinks it happens

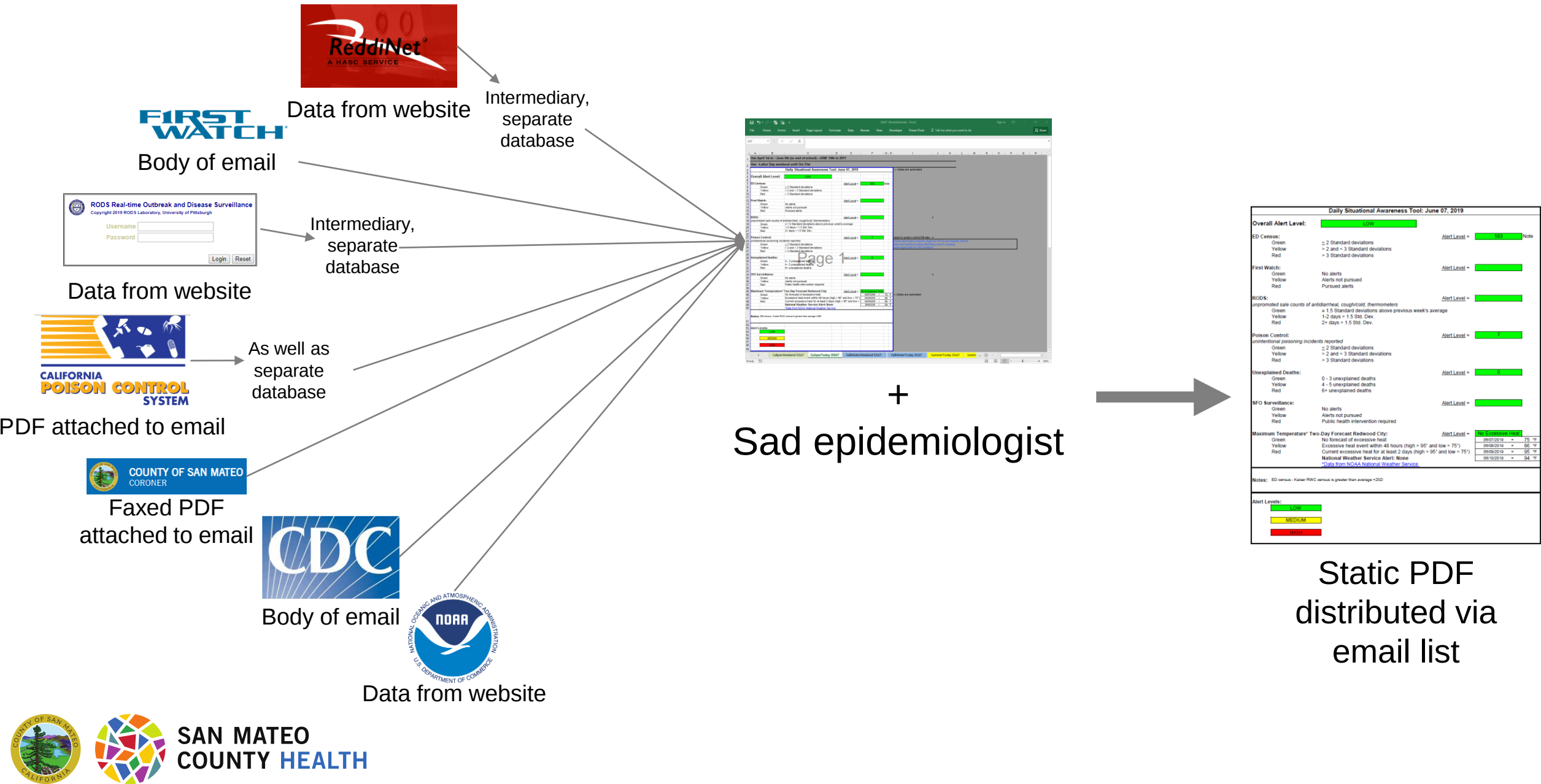
Clean and tidy data source #1
+
Clean and tidy data source #2
+
Clean and tidy data source #3
+
Clean and tidy data source #4
+
Clean and tidy data source #5
+
Clean and tidy data source #6
+
Clean and tidy data source #7

Epidemiologist
magic

Daily Situational Awareness Tool: June 07, 2019			
Overall Alert Level:		LOW	
ED Census:		Alert Level =	583 Note
Green	≤ 2 Standard deviations		
Yellow	> 2 and < 3 Standard deviations		
Red	> 3 Standard deviations		
First Watch:		Alert Level =	
Green	No alerts		
Yellow	Alerts not pursued		
Red	Pursued alerts		
RODS:		Alert Level =	
unpromoted sale counts of antidiarrheal, cough/cold, thermometers			
Green	≤ 1.5 Standard deviations above previous week's average		
Yellow	1-2 days > 1.5 Std. Dev.		
Red	2+ days > 1.5 Std. Dev.		
Poison Control:		Alert Level =	7
unintentional poisoning incidents reported			
Green	≤ 2 Standard deviations		
Yellow	> 2 and < 3 Standard deviations		
Red	> 3 Standard deviations		
Unexplained Deaths:		Alert Level =	0
Green	0 - 3 unexplained deaths		
Yellow	4 - 5 unexplained deaths		
Red	6+ unexplained deaths		
SFO Surveillance:		Alert Level =	
Green	No alerts		
Yellow	Alerts not pursued		
Red	Public health intervention required		
Maximum Temperature* Two-Day Forecast Redwood City:		Alert Level =	No Excessive Heat
Green	No forecast of excessive heat		06/07/2019 = 75 °F
Yellow	Excessive heat event within 48 hours (high > 95° and low > 75°)		06/08/2019 = 86 °F
Red	Current excessive heat for at least 2 days (high > 95° and low > 75°)		06/06/2019 = 95 °F
National Weather Service Alert: None			06/10/2019 = 94 °F
*Data from NOAA National Weather Service			
Notes: ED census - Kaiser RWC census is greater than average +2SD			
Alert Levels:			
LOW			
MEDIUM			
HIGH			



How it actually happens



AITT Project Goals

- Streamlined data input
- Interactive data output (dashboards?)
- Fewer sad epidemiologists

Stakeholders

- Health Officer
- Epidemiologists
- Other DSAT recipients

Challenges

- Attachment to PDF, resistance to change
- Multiple data sources, acquisition methods, and dependencies
- Epidemiologist software knowledge/comfort level
- Desire for more interactive report

Seeking advice on:

Development approach: When developing (new) changing (old) product, such as a report or application, what is the best approach: agile/iterative (checking in w/ the stakeholder every step of the way and getting their buy-in or approval) vs “make and shake” (create an exciting prototype of what could be and wow the stakeholder with a possibility they hadn’t previously imagined).

Data sharing approach:

Selecting the right data sharing tools for the developers (epis, analysts, etc.): Stick to the familiar/low hanging fruit (e.g., Excel) or help guide adoption of new tools (e.g., Power BI, RShiny apps, Tableau, or other enterprise data viz tools).

Selecting the right data sharing tools for data consumers (stakeholders, general public, decision makers, etc.): Criteria for selecting which tools are suitable for the range of audiences who will be interacting w/ and interrogating the data we share.

Stewarding data democratization: What’s the best way to guide interpretation among people who don’t usually have to interpret data/create savvy data consumers?



Thank you!!



SAN MATEO
COUNTY HEALTH