



HRSA Ryan White HIV/AIDS Program

**CENTER FOR QUALITY
IMPROVEMENT & INNOVATION**

Let the Data do the Work for You! Designing a Semi-Automated Disparities Calculator

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Maricopa County's Ryan White HIV/AIDS Program Part A
Phoenix Eligible Metropolitan Area (EMA)
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**Department
of Health**



HRSA Ryan White HIV/AIDS Program

**CENTER FOR QUALITY
IMPROVEMENT & INNOVATION**


Learning Objectives: You Will Learn About...

- Data analysis, automation, and statistical analysis
- Interpreting results for data-driven decision making
- Sharing of Lessons learned

**LET THE DATA DO THE WORK FOR YOU!
DESIGNING A SEMI-AUTOMATED
DISPARITIES CALCULATOR**

What we were doing...

- CQII (formerly NQC) Disparities Calculator

	A	B	C	D	E	F	G	H	I
1	Name of Reporting Agency:	 NATIONAL QUALITY CENTER	NQC Disparities Calculator						
2	Name of Staff Person Reporting:								
3	Measurement Period:								
4	Reporting Date:								
5	Data Source(s):								
6	Aggregated Data For Disparities Analysis	# of Agencies in Dataset	HIV Viral Load Suppression			Retention in HIV Care			Data Limitations / Comments
7			Num.	Denom.	%	Num.	Denom.	%	
8	Total	1			#DIV/0!			#DIV/0!	not applicable
9	Black	1			#DIV/0!			#DIV/0!	not applicable
10	Black Heterosexual	1			#DIV/0!			#DIV/0!	not applicable
11	Hispanic MSM	1			#DIV/0!			#DIV/0!	not applicable
12	Other	1			#DIV/0!			#DIV/0!	not applicable

What we needed to know...

- Are we missing disparities in other populations?
- Are there less obvious disparities?
- Can we design SOMETHING automated that requires minimal manual work?
- Could that SOMETHING be easily updated as new data comes in?



Yes, We Can!

RWPA Disparities Calculator CY 2021

Disparity Description: <-10% Acute Disparity -5%-10% Mild Disparity -4% to -1% Small Disparity >0% No Disparity

Sig at a 95% CI, p<0.05 Compared to the RWPA average

Population/Subpopulation	Total	Unsuppressed	Suppressed	% Suppressed	Disparity	Sig Disparity?
All RWPA Clients	4,167	633	3534	85%		
Men	3,392	527	2865	84%	-1%	Not Sig
Female	678	85	593	87%	2%	Not Sig
Transwomen	92	20	72	78%	-7%	Not Sig
Transwomen of Color	77	16	61	79%	-6%	Not Sig

Population/Subpopulation	Total	Unsuppressed	Suppressed	% Suppressed	Disparity	Sig Disparity?
Females	678	85	593	87%	2%	Not Sig
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Females Hispanic	203	17	186	92%	7%	Sig
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Population/Subpopulation	Total	Unsuppressed	Suppressed	% Suppressed	Disparity	Sig Disparity?
All Races	4,167	633	3534	85%		
White non-Hispanic	1,500	225	1275	85%	0%	Not Sig
Communities of Color	2,667	408	2259	85%	0%	Not Sig
American Indian	87	22	65	75%	-10%	Sig
Asian/Pacific Islander	72	5	67	93%	8%	Not Sig
Black/African American	814	163	651	80%	-5%	Sig
Hispanic	1,546	193	1353	88%	3%	Sig
More than one race	148	25	123	83%	-2%	Not Sig

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All Races Males	3,392	527	2865	84%	-1%	Not Sig
White non-Hispanic Males	1,328	193	1135	85%	0%	Not Sig
Communities of Color Males	2,064	334	1730	84%	-1%	Not Sig
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Asian/Pacific Islander Males	58	4	54	93%	8%	Not Sig
Black/African American Males	529	123	406	77%	-8%	Sig
Hispanic Males	1,292	168	1124	87%	2%	Not Sig
More than one race Males	117	23	94	80%	-5%	Not Sig

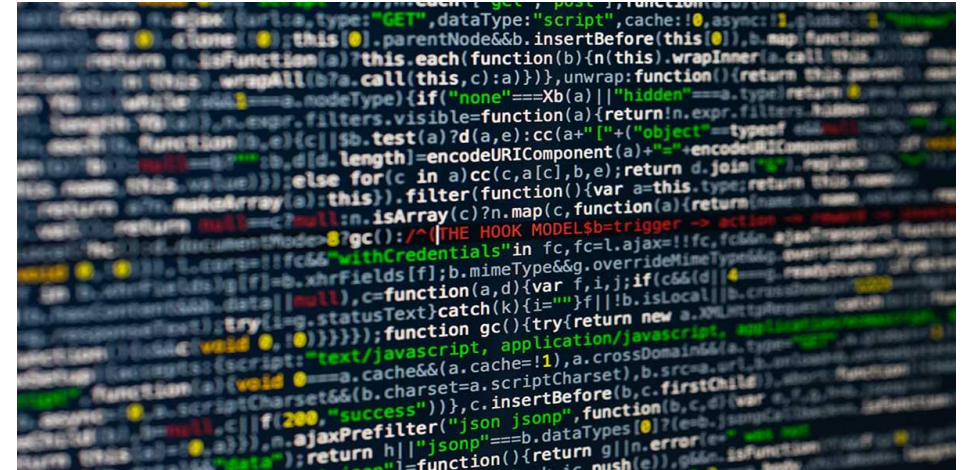
Population/Subpopulation	Total	Unsuppressed	Suppressed	% Suppressed	Disparity	Sig Disparity?
MSM/IDU	2,984	457	2527	85%	0%	Not Sig
MSM/IDU White	1,192	168	1024	86%	1%	Not Sig
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Population/Subpopulation	Total	Unsuppressed	Suppressed	% Suppressed	Disparity	Sig Disparity?
Hetero	909	110	799	88%	3%	Sig
Hetero Males	345	48	297	86%	1%	Not Sig
Hetero Males White	76	10	66	87%	2%	Not Sig



Building our calculator!

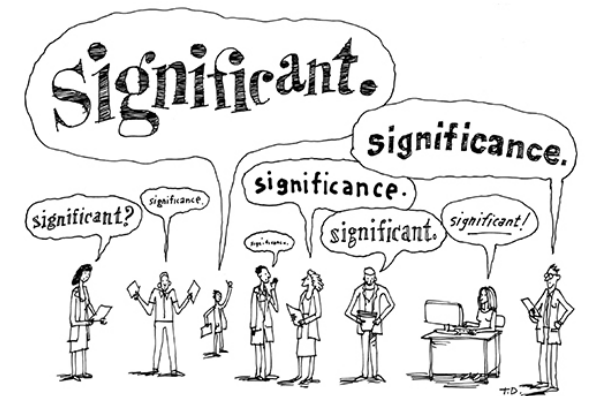
- Fancy tools not required!
- For simple data analysis, you only need to know three things:
 - Data arranging
 - Data summarizing
 - Data refreshing



LET'S SEE A DEMO!!!

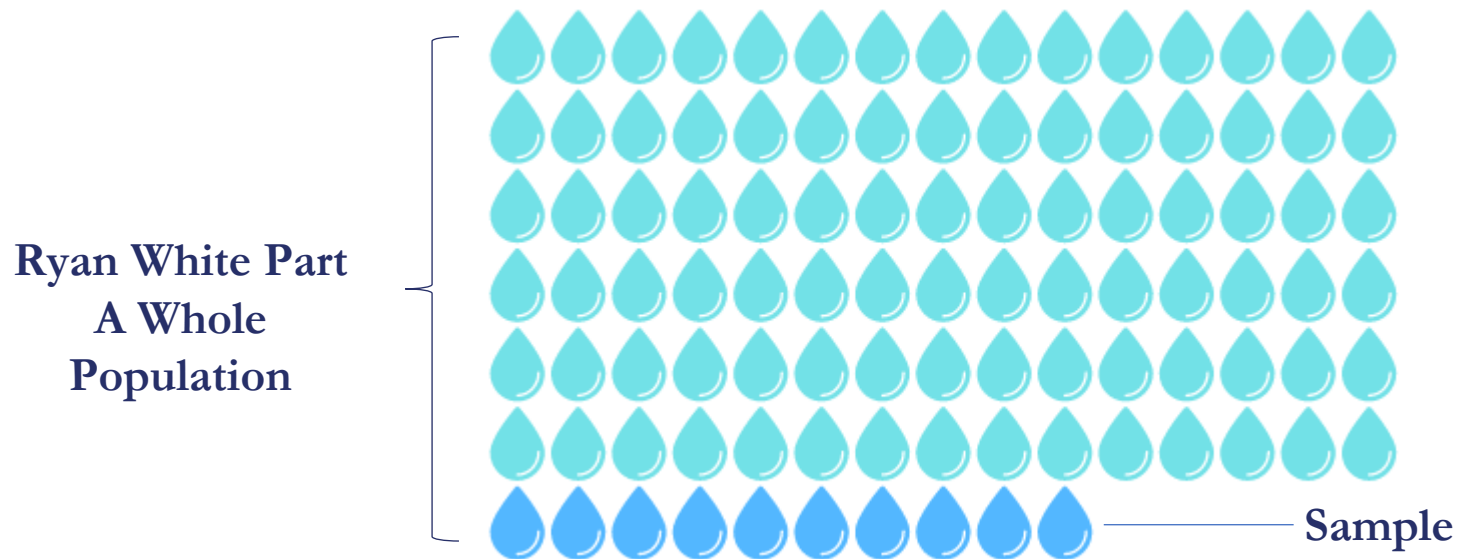
“Significant”

- You may have heard the term “...SIGNIFICANT...”
- Two different meanings:
 - Everyday meaning: big or important to (worth our attention).
 - i.e., a significant increase in sales
 - Statistical meaning:
 - Something can be “statistically significant” and be big and important.
 - Something can be “statistically significant” and be small and unimportant.



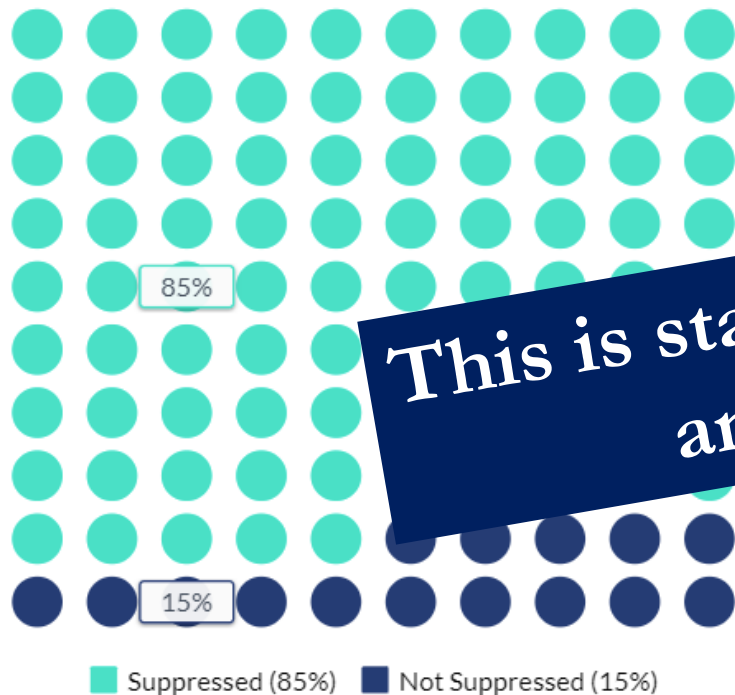
Understanding significance

- We have evidence that the results we see in the (representative) **sample** also exist in the **whole population**.



Disparities in Viral Suppression

All Phoenix EMA Clients



N= 4,000

Black/African Americans Clients



N= 800

This is statistically significant and important!

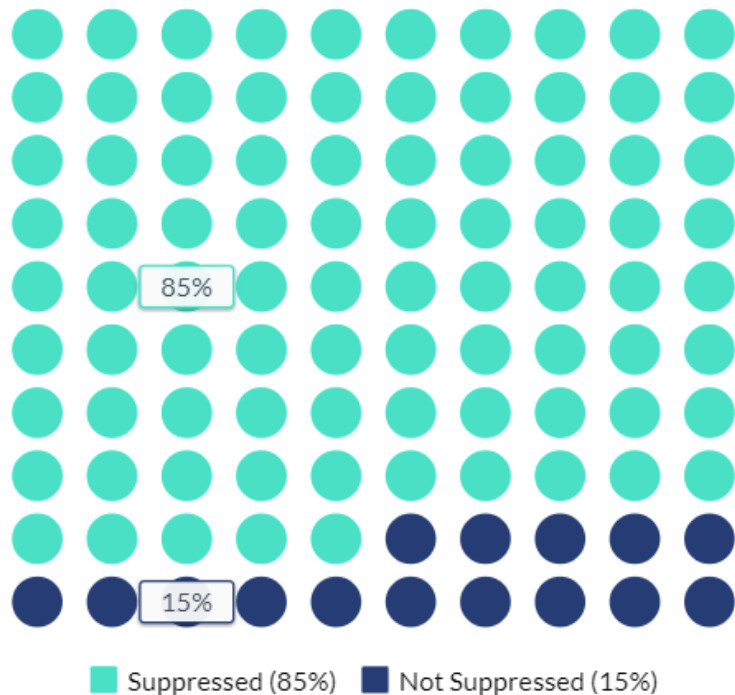
-5%
difference

Statistically
significant

“there is a
statistically
significant
suppression
disparity...”

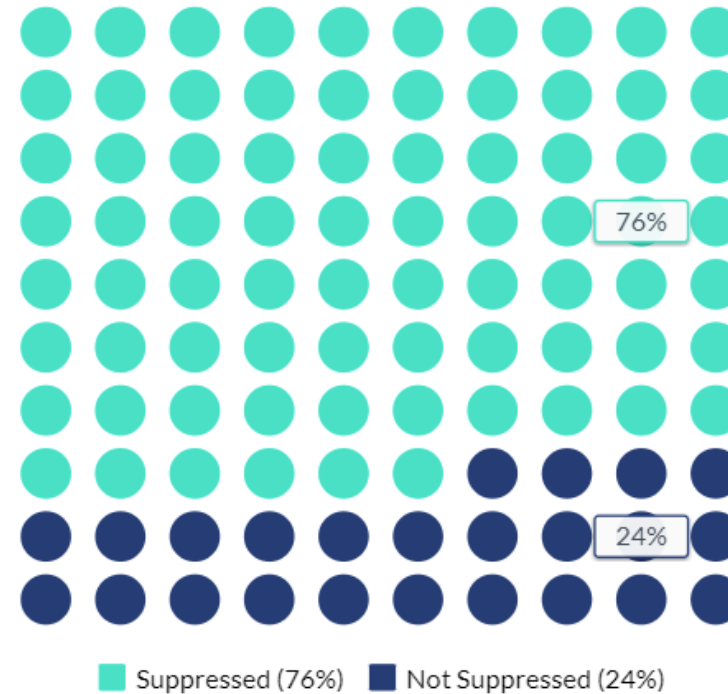
Disparities in Viral Suppression

All Phoenix EMA Clients



N= 4,000

Native American Men



N= 70

-9%
difference

Not statistically
significant

“there is **not** a
statically
significant
suppression
disparity...”

Our disparities calculator!

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The technical details

How is statistical significance calculated?

- Confidence Interval
 - P-Value
- *“How certain do you want your results to be?”*
 - 99%
 - 95%
 - 90%
 - $p < 0.05$ statistically significant difference
 - $P > 0.05$ no statistically significant difference

What we learned...

Lessons learned

- The calculator cannot be 100% automated, it still needs human insight.
- Needed to accompany the calculator with a reading guide for easier navigation and understanding.

Limitations

- This is a viral suppression focused calculator; separate analysis is needed for linkage and retention in HIV care.

What we gained...

- Time Saving!!!
- Removes fear of data analysis by simplifying the process to identify disparities.
- Allows for more accurate data interpretation.
- Faster response to emerging trends in disparities.
- More ability to make data-driven decisions and implement focused efforts to end the HIV epidemic.

Outcomes

- 10+ subrecipient improvement projects focused on vulnerable populations in the past 18 months.
- Identified 5 new/emerging trends in disparities in the past year.
- Media campaign development based on identified disparities among young people ages 18-34.
- 20+ technical assistance or training requests from other jurisdictions.



Results

- Improved Viral Suppression
 - 7% increase among Black gay, bisexual and other same gender loving men, reducing disparities by over two-thirds.
 - 5% increase among clients who use injection drugs.
- Improved services engagement
 - 161 people have connected or reconnected to RWHAP services through the Positively You! campaign.
 - 21% increase in young people accessing services, including case management, transportation, and support groups.



THANK YOU



Contact Information



- Like and follow @PositivelyYouAZ!



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- Jeremy Hyvärinen, Ryan White Subdivision
Manager, Jeremy.Hyvarinen@maricopa.gov

Learn More

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