

# TB & COVID-19 Matching

November, 2021

Evan Timme | AZ-TB Epi



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

Disclosure  
-no conflicts



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

# Surveillance system matching [not EMR]

**TB** [confirmed & counted in AZ]



**COVID-19** [confirmed/probable in AZ]

## Flexible matching – no MPI

\*MPI - master Pt index



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

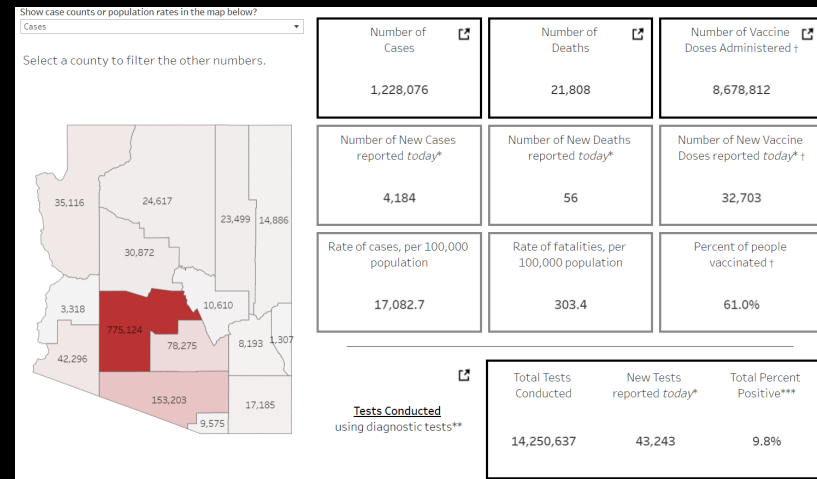
*Health and Wellness for all Arizonans*

**TB**  
[~2/100,000]

**1,200,000+**  
**COVID-19**  
[>17,000/100,000]

**Matched**  
[>20%]

\*matched via SAS program  
\*\*only captures AZ TB and AZ COVID-19



<https://www.azdhs.gov/preparedness/epidemiology-disease-control/infectious-disease-epidemiology/covid-19/dashboards/index.php>

# Matching

UID

or

COMPGED function

or

SPEDIS function

or

FIND function

or

General Surveillance ID



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

Matching

Name/DOB/Sex combo

UID

or

COMPGED function

or

SPEDIS function

or

FIND function

or

General Surveillance ID

YASIIN BEY

12/11/1973

Male [m=1, f=2]

YSBY1211731

\*missing/unk => '9'



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

Matching

UID

or

COMPGED function

or

SPEDIS function

or

FIND function

or

General Surveillance ID

Name/DOB/Sex combo

YSBY1211731 = YSBY1211731

TB UID = COVID UID

Exact match

96% match



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

# Matching

UID

or

**COMPGED function**

or

SPEDIS function

or

FIND function

or

General Surveillance ID

generalization of  
Levenshtein edit  
distance

Measures dissimilarity

*\*higher #, greater diff*

First name  $\leq 200$ , **AND**

Last name  $\leq 200$ , **AND**

DOB  $\pm$  1-day



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*



# Matching

UID

or

**COMPGED function**

or

SPEDIS function

or

FIND function

or

General Surveillance ID

**MATCH**  
F\_name = 20  
L\_name = 100

TB

YASIIN

BEY

12/11/1973

COVID

YASIN

BAY

12/11/1973

**MATCH**  
F\_name = 40  
L\_name = 40

YASIIN

BEY

12/11/1973

YASIIN **MOS**

BEY **DEF**

12/11/1973

91% match



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

Health and Wellness for all Arizonans

Matching

UID

or

COMPGED function

or

**SPEDIS function**

or

FIND function

or

General Surveillance ID

distance query

Computes Asymmetric  
spelling

*\*higher #, greater diff*

First name  $\leq 40$ , AND

Last name  $\leq 40$ , AND

DOB  $\pm$  1-day



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

# Matching

UID

or

COMPGED function

or

**SPEDIS function**

or

FIND function

or

General Surveillance ID

**MATCH**  
F\_name = 8  
L\_name = 33

TB  
YASIIN  
BEY  
12/11/1973

COVID  
YASIN  
BAY  
12/11/1973

**NO MATCH**  
F\_name = 33  
L\_name = 66

YASIIN  
BEY  
12/11/1973

YASIIN **MOS**  
BEY **DEF**  
12/11/1973

95% match

## Matching

UID

or

COMPGED function

or

SPEDIS function

or

**FIND function**

or

General Surveillance ID

TB name contained in  
COVID-19 name [vv]

((TB *F\_name* in COVID *F\_name*))

or

(COVID *F\_name* in TB *F\_name*))

**AND**

((TB *L\_name* in COVID *L\_name*))

or

(COVID *L\_name* in TB *L\_name*))

**AND**

DOB  $\pm$  1-day



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

# Matching

UID

or

COMPGED function

or

SPEDIS function

or

**FIND function**

or

General Surveillance ID

**NO MATCH**  
F\_name → NO  
L\_name → NO

TB

YASIIN

BEY

12/11/1973

COVID

YASIN

BAY

12/11/1973

**MATCH**  
F\_name → YES  
L\_name → YES

YASIIN

BEY

12/11/1973

YASIIN MOS

DEF BEY

12/11/1973

98% match



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

Health and Wellness for all Arizonans

Matching

UID

or

COMPGED function

or

SPEDIS function

or

FIND function

or

**General Surveillance ID**

Surveillance system ID

Parent ID across 2+  
morbidities

*\*requires manual process*

**75%** match



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

# Matching

UID ----- 96%

or

COMPGED function ----- 91%

or

SPEDIS function ----- 95%

or

FIND function ----- 98%

or

General Surveillance ID ----- 75%



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*

# THANK YOU

Evan Timme | TB Epi  
[evan.timme@azdhs.gov](mailto:evan.timme@azdhs.gov) | 480-244-6643

Coded in SAS 9.4



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

*Health and Wellness for all Arizonans*