

# PA Election Anomalies: Chester County

Vico Bertogli III  
Audit The Vote PA  
10/13/2021



# Who am I?

- Born and Raised in Chester County, PA (Kennett Square area)
  - Three generations of us call this area home
  - Currently reside in Montgomery County PA
- Software developer
  - Over a decade of experience in this space
- Involved in politics for 4+ years
  - Been working with Voter Data since I got involved
  - Worked on US Congressional campaign in 2020
- Collaborated with Dr. Frank on his initial election analysis in Montco
- Data Analyst for Audit The Vote PA
  - Analyzing and identifying issues with 2020 election since Nov 4 2020



**data**

**integrity**

# What is Data Integrity?

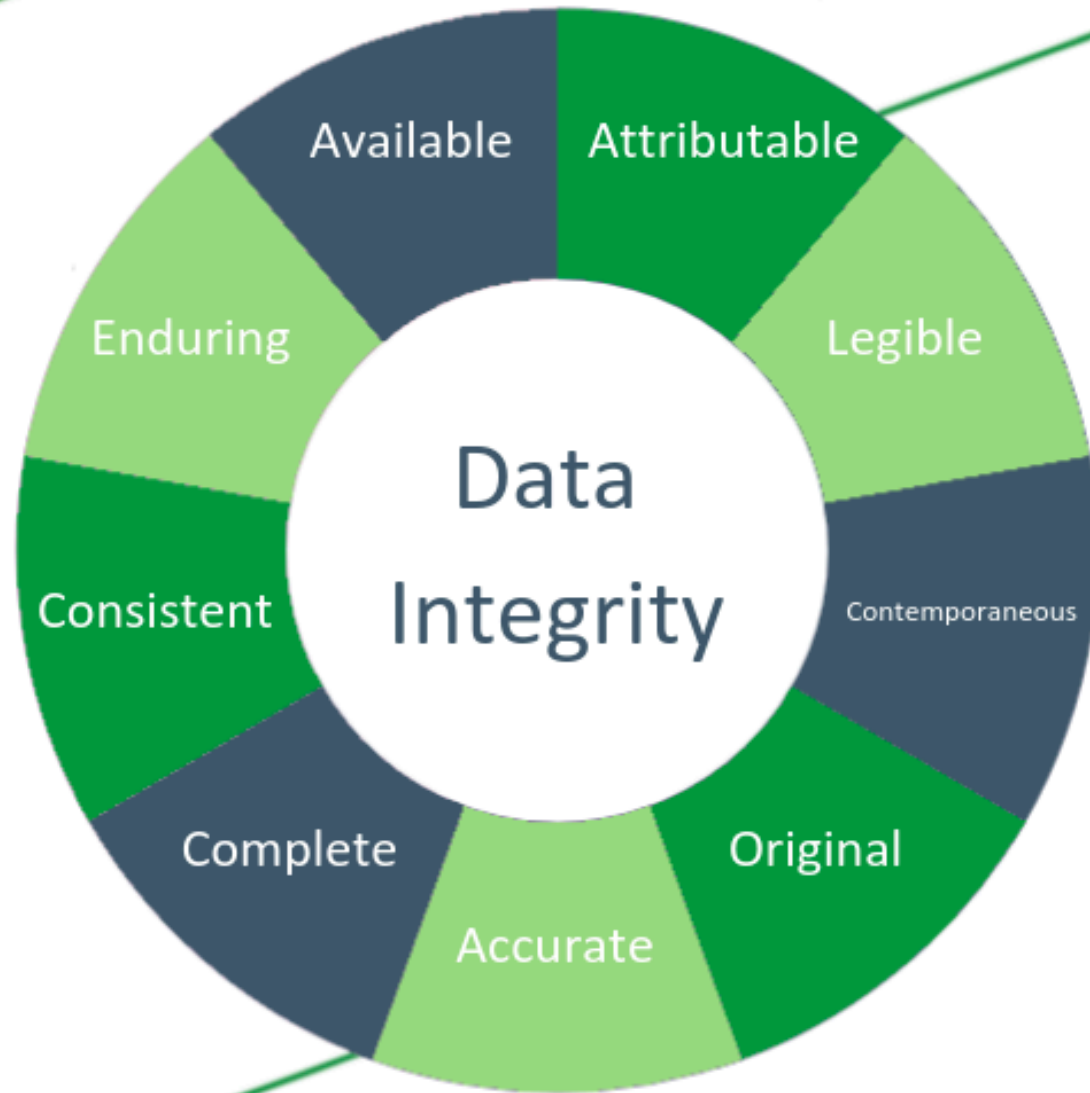
Data integrity refers to the completeness, consistency, and accuracy of data. Complete, consistent, and accurate data should be attributable, legible, contemporaneously recorded, original or a true copy, and accurate. (ALCOA)

<https://www.fda.gov/media/119570/download>

# The ALCOA Principles

- ALCOA is an acronym for the original five principles of data integrity. Those principles are:
  - Attributable
  - Legible
  - Contemporaneous
  - Original
  - Accurate
- However, the original ALCOA principles have since been updated to ALCOA+. The original principles remain with four additions:
  - Complete
  - Consistent
  - Enduring
  - Available

<https://slcontrols.com/what-is-alcoa-and-why-is-it-important-to-validation-and-data-integrity/>



# What else does the FDA say about “Data Integrity”?

“You can’t just have data, though. Instead, you need to have data and you need to ensure the integrity of that data. When you have this, you have data you can use and rely on.”

“FDA expects that all data be reliable and accurate”

“ensuring data integrity is an important component of [FDA] industry’s responsibility to ensure the safety, efficacy, and quality of drugs, and of FDA’s ability to protect the public health.”

<https://www.fda.gov/media/119570/download>

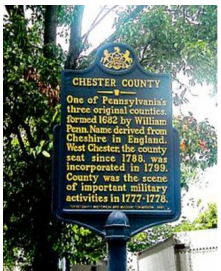
So, why is data integrity  
important for *OTHER* industries,  
but not our elections?

Well... Data integrity is important for ALL systems that house  
data – INCLUDING & ESPECIALLY our elections



Before we jump into the data,  
let's take a brief look at  
Chester County

# Chester County, Pennsylvania



# Chester County, Pennsylvania

- Chester County was one of the three original Pennsylvania counties created by [William Penn](#) in 1682.
- Chester county is the 6<sup>th</sup> most populous county in Pennsylvania.
  - As of the [2020 census](#), the population was 534,413, increasing by 7.1% from 498,886 in [2010](#).
- Long a primarily rural area, **Chester County is now the fastest-growing county in the Delaware Valley**; it is one of the fastest growing in the entire Northeastern section of the United States.

Now, onto the anomalies in  
Chester County's voter rolls...

# What kind of anomalies are we seeing in Chester County?

COUNTY	POPULATION_RANK	POPULATION	TURNOUT_RANK_2020	TURNOUT_2020	PCT_TURNOUT_2020	ANOMALY	ANOMALY_COUNT	ANOMALY_PCT_OF_2020_VOTE
CHESTER	6	367709	2	312566	85%	BACKFILLED	3946	1.26%
						DUPLICATE_REGISTRATIONS	2434	0.78%
						FIRST_TIME_VOTERS	47345	15.15%
						INACTIVE_VOTERS	1499	0.48%
						MB_INVALID_VOTERID	1000	0.32%
						MB_RECEIVED_AFTER_ELECTION	4469	1.43%
						MB_SENT_OUT_OF_STATE	1241	0.4%
						REMOVED_REGISTRATIONS	13920	4.45%

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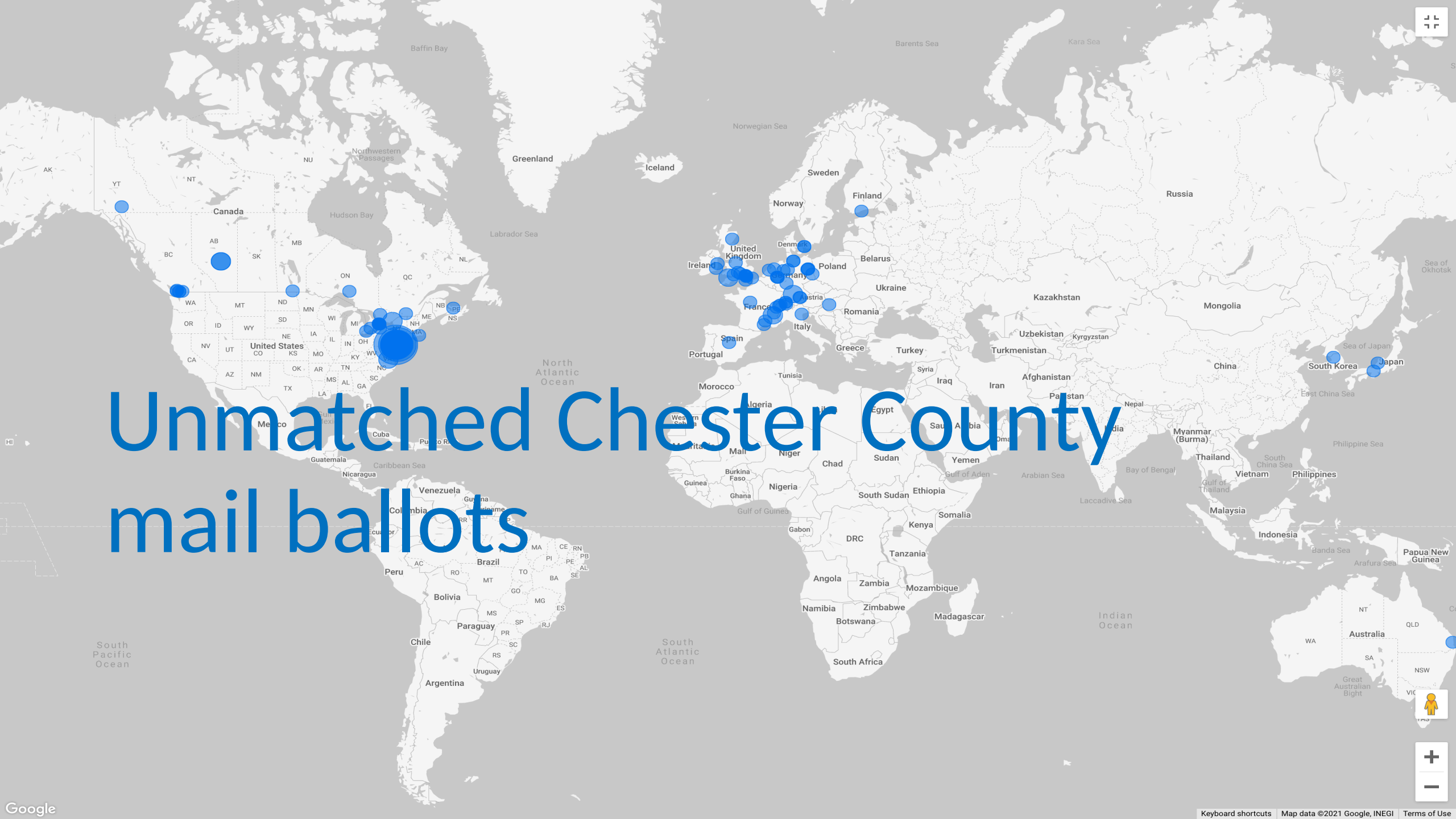
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# Unmatched Chester County mail ballots



# Breaking down the unmatched Chester County Mail Ballots

Chester County saw 1000 mail ballots issued and returned that **were NOT associated with *any* Voter ID** from Pennsylvania's voter rolls at the time of the election.

Of the 1000 ballots:

- 680/1000 were sent to Democrats
- 77/1000 were sent to Republicans
- 966/1000 ballots are "F" type ballots

# Backfilled Registrations

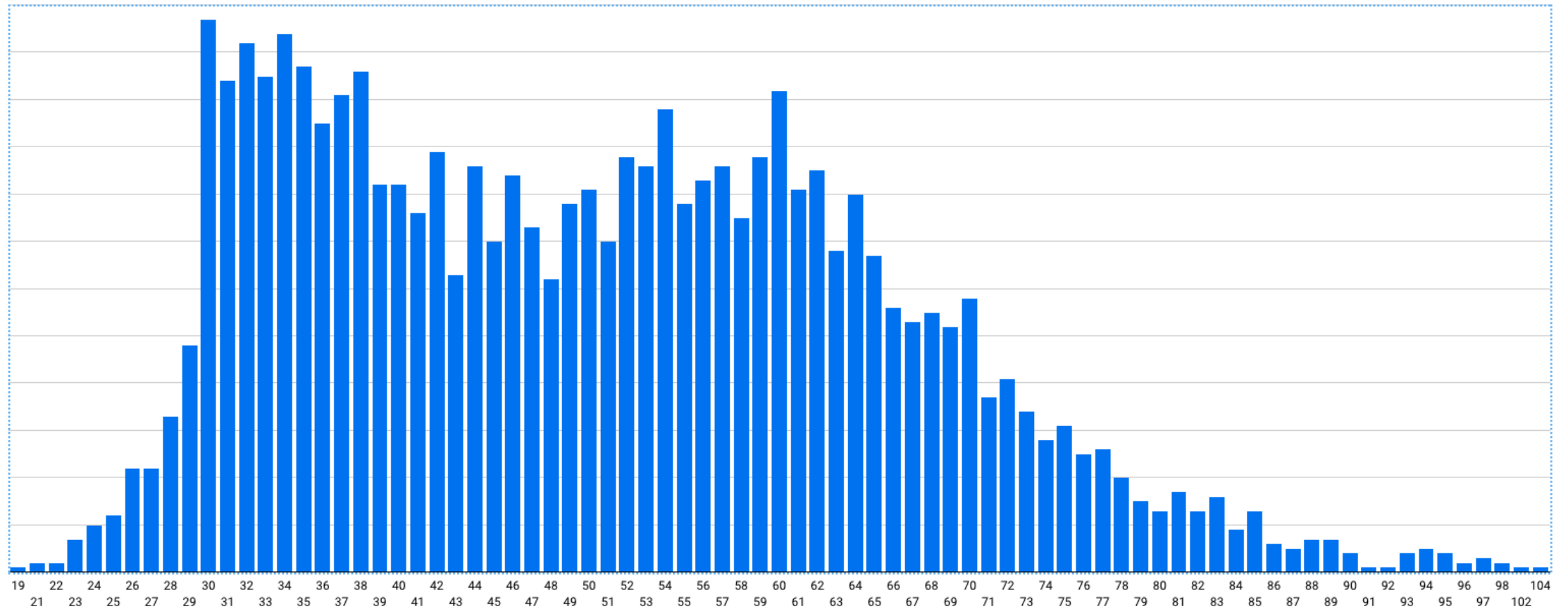




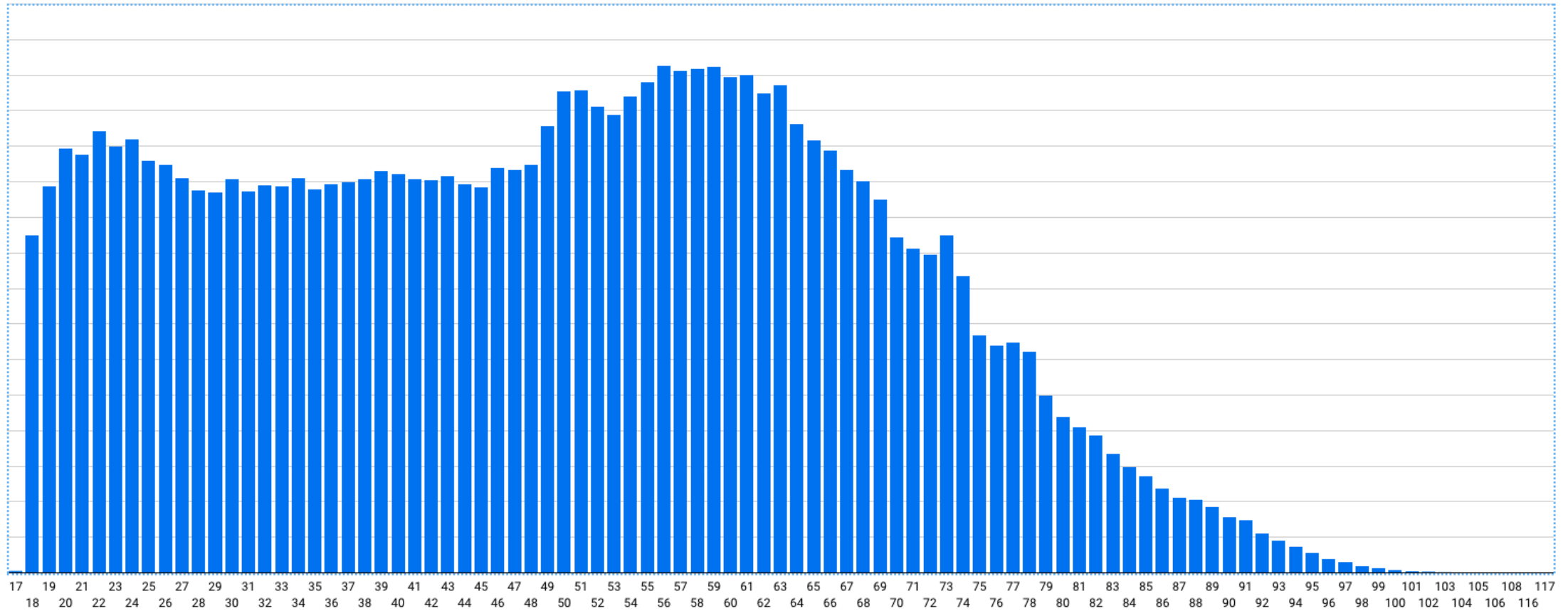
# Backfilled Registrations

- There are registrations that are missing from the April 2020 voter rolls that have registration dates PRIOR to April 2020, which reappear on the voter rolls prior to the November 2020 election
  - The majority of these cases have registration dates years prior to the April export
  - Some don't even appear until *after* the election with a 2020 vote on their record!
- 3332 of the total backfilled registrations go on to vote in the 2020 election
- There is a nearly equal distribution of backfilling for Republicans and Democrats in Chester County
  - 1478 Republicans, 1450 Democrats, 1018 Third Party
- These anomalies are not tied to any one precinct/city and are distributed throughout the county
- Age distribution for Chester County more closely resembles the age distribution of PA's voter data over Chester County's

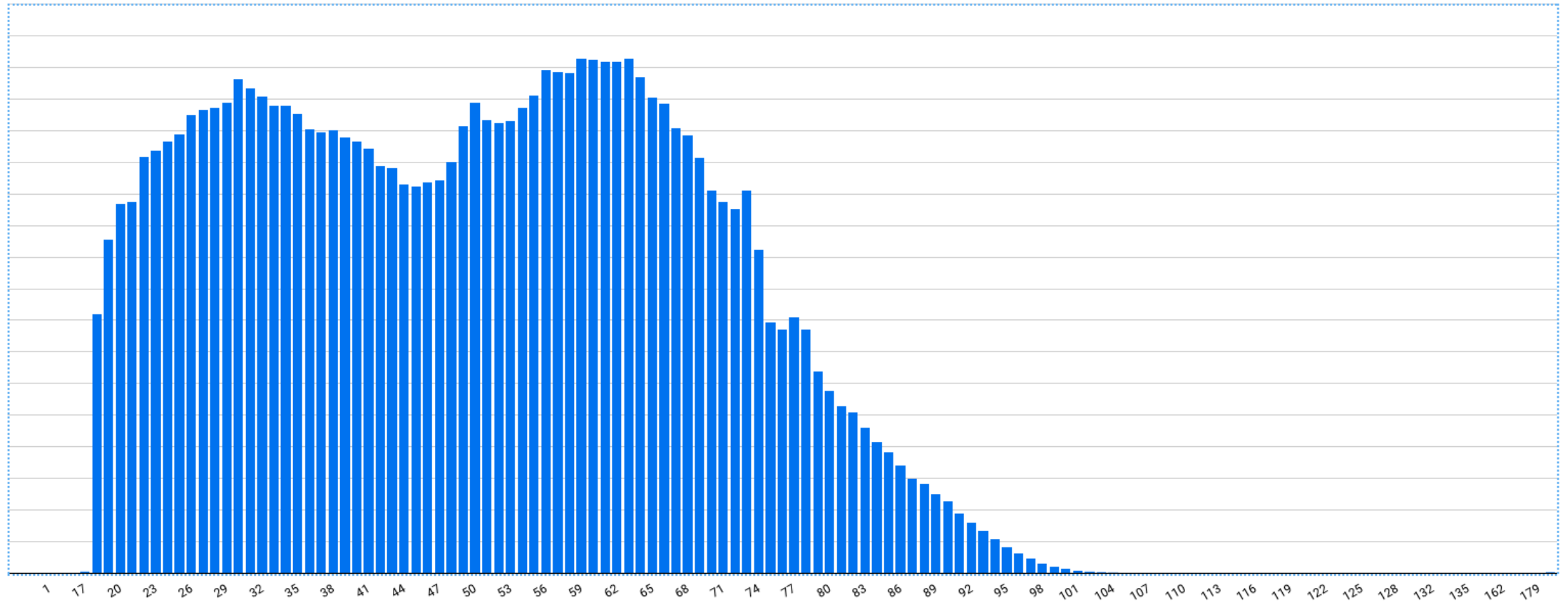
# Age Breakdown of Chester County's backfilled



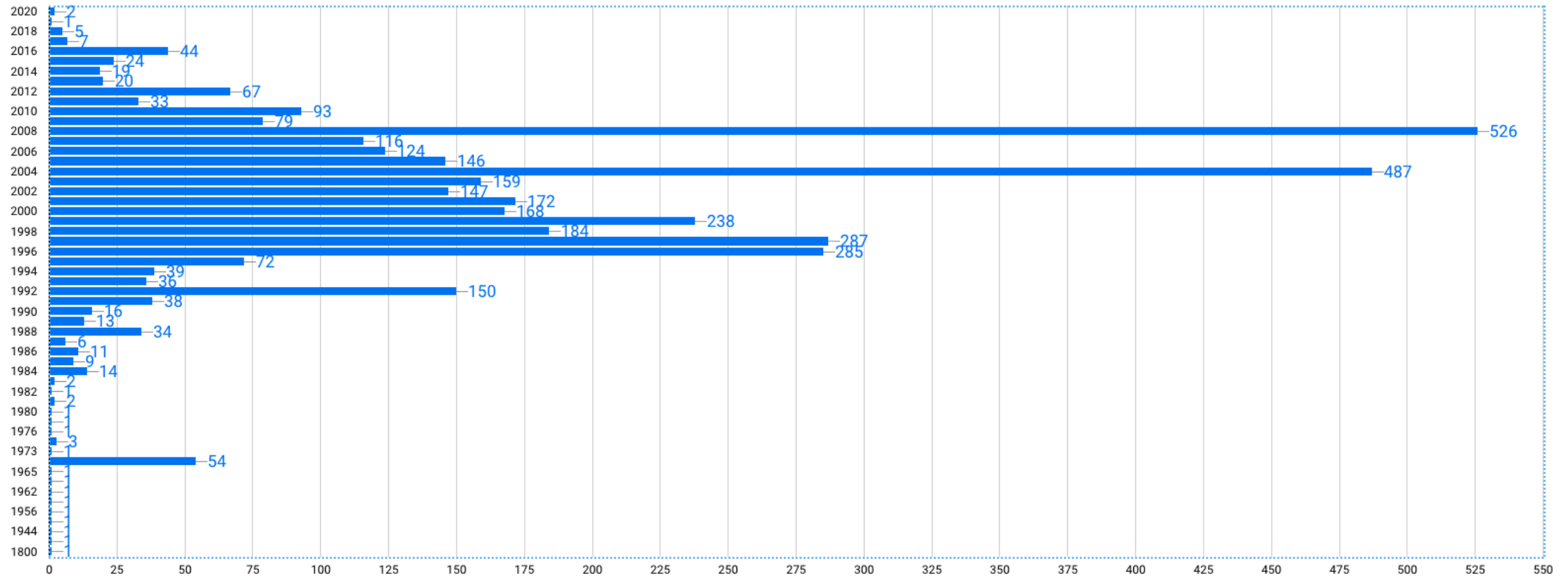
# Age Breakdown of Chester County's registrations



# Age Breakdown of Pennsylvania's registrations

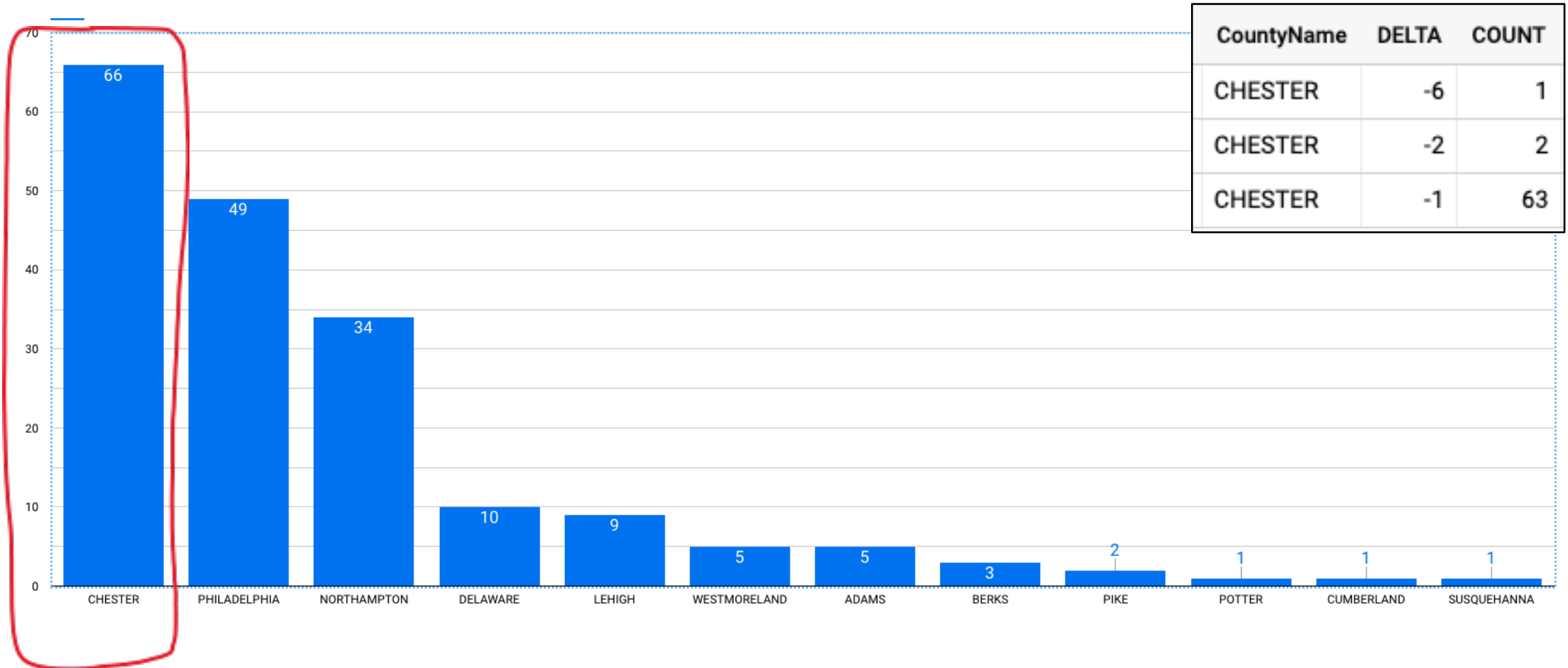


# Registration Year breakdown of Chester County's Backfilled registrations



What other indications do we see that suggests there's a data integrity issue?

# Mail ballots received before recorded as sent, by County



# Registrations with changing Birthdates

UNIQID	FVES	DOBS
012875320	2021-09-20	06/05/1957
	2021-08-30	06/05/1957
	2021-06-07	06/05/1957
	2021-03-08	06/05/1957
	2021-02-01	06/05/1957
	2020-12-28	06/05/1957
	2020-11-09	06/05/1957
	2020-10-26	06/05/1957
	2020-06-23	06/05/1951
	2020-04-06	06/05/1951
	2019-12-30	06/05/1951

2021-09-20	05/07/1938
2021-08-30	05/07/1938
2021-06-07	05/07/1938
2021-03-08	05/07/1938
2021-02-01	05/07/1938
2020-12-28	05/07/1938
2020-11-09	05/07/1938
2020-10-26	05/07/1938
2020-06-23	05/06/1938
2020-04-06	05/06/1938
2019-12-30	05/06/1938

2020-12-28	03/05/1934
2020-11-09	03/05/1934
2020-10-26	03/05/1954
2020-06-23	03/05/1954
2020-04-06	03/05/1954
2019-12-30	03/05/1954

2021-09-20	07/29/1947
2021-08-30	07/29/1947
2021-06-07	07/29/1947
2021-03-08	07/24/1947
2021-02-01	07/24/1947
2020-12-28	07/24/1947
2020-11-09	07/24/1947
2020-10-26	07/24/1947
2020-06-23	07/24/1947
2020-04-06	07/24/1947
2019-12-30	07/24/1947



# Registrations with changing Registration dates

FVES	RegDates
2021-09-20	04/01/2020
2021-08-30	04/01/2020
2021-06-07	04/01/2020
2021-03-08	04/01/2020
2021-02-01	04/01/2020
2020-12-28	04/01/2020
2020-11-09	04/01/2020
2020-10-26	04/01/2020
2020-06-23	04/01/2020
2020-04-06	04/11/2020

2020-06-23	03/30/2020
2020-04-06	04/09/2020

2021-09-20	03/30/2020
2021-08-30	03/30/2020
2021-06-07	03/30/2020
2021-03-08	03/30/2020
2021-02-01	03/30/2020
2020-12-28	03/30/2020
2020-11-09	03/30/2020
2020-10-26	03/30/2020
2020-06-23	03/30/2020
2020-04-06	04/09/2020

FVES	RegDates
2021-09-20	02/24/2004
2021-08-30	02/24/2004
2021-06-07	02/24/2004
2021-03-08	02/24/2004
2021-02-01	02/24/2004
2020-12-28	02/24/2004
2020-11-09	02/24/2004
2020-10-26	02/24/2004
2020-06-23	02/24/1904
2020-04-06	02/24/1904
2019-12-30	02/24/1904

# Registrations changing counties and back

FVES	COUNTIES	FVES	COUNTIES	FVES	COUNTIES	FVES	COUNTIES	FVES	COUNTIES
2021-09-20	LEHIGH	2021-09-20	LANCASTER	2021-09-20	CHESTER	2021-09-20	CHESTER	2021-09-20	CHESTER
2021-08-30	LEHIGH	2021-08-30	CHESTER	2021-08-30	CHESTER	2021-08-30	CHESTER	2021-08-30	CHESTER
2021-06-07	CHESTER	2021-06-07	BUCKS	2021-06-07	PHILADELPHIA	2021-06-07	CHESTER	2021-06-07	CHESTER
2021-03-08	CHESTER	2021-03-08	LANCASTER	2021-03-08	CHESTER	2021-03-08	CHESTER	2021-03-08	CHESTER
2021-02-01	LEHIGH	2021-02-01	LANCASTER	2021-02-01	CHESTER	2021-02-01	CHESTER	2021-02-01	CHESTER
2020-12-28	LEHIGH	2020-12-28	LANCASTER	2020-12-28	CHESTER	2020-12-28	CHESTER	2020-12-28	CHESTER
2020-11-09	LEHIGH	2020-11-09	LANCASTER	2020-11-09	PHILADELPHIA	2020-11-09	CHESTER	2020-11-09	MONTGOMERY
2020-10-26	LEHIGH	2020-10-26	LANCASTER	2020-10-26	CHESTER	2020-10-26	CHESTER	2020-10-26	CHESTER
2020-06-23	LEHIGH	2020-06-23	LANCASTER	2020-06-23	CHESTER	2020-06-23	WAYNE	2020-06-23	CHESTER
2020-04-06	LEHIGH	2020-04-06	LANCASTER	2020-04-06	CHESTER	2020-04-06	CHESTER	2020-04-06	CHESTER
2019-12-30	LEHIGH	2019-12-30	LANCASTER	2019-12-30	CHESTER	2019-12-30	CHESTER	2019-12-30	CHESTER

Registrations whose DOB and Registration date would indicate the person registered under 17 years of age, with many under 0 years of age (1,263)


DOB	Registration_Date	AGE_AT_REG
08/01/1984	01/01/1800	-184
05/29/1979	01/01/1800	-179
05/18/1978	01/01/1800	-178
12/30/1977	01/01/1800	-177
12/28/1976	01/01/1800	-176
03/13/1965	01/01/1800	-165
03/24/1961	01/01/1800	-161
04/06/1959	01/01/1800	-159
06/10/1954	01/01/1800	-154
09/21/1947	01/01/1800	-147
08/30/1944	01/01/1800	-144
12/12/1940	01/01/1800	-140
06/30/1938	01/01/1800	-138
11/29/1938	01/01/1800	-138
07/09/1938	01/01/1800	-138
09/24/1937	01/01/1800	-137

03/04/1943	01/01/1901	-42
11/28/1970	10/20/1929	-41
04/21/1957	07/08/1919	-38
07/31/1946	04/01/1909	-37
08/05/1935	01/01/1901	-34
09/21/1933	01/01/1901	-32
05/19/1971	10/09/1954	-17
02/01/1944	12/02/1939	-5
03/27/1976	01/01/1972	-4
01/04/1976	01/01/1972	-4
02/22/1972	02/01/1969	-3
06/11/1975	01/01/1972	-3
10/14/1974	01/01/1972	-2
08/12/1951	12/25/1949	-2
10/28/1973	01/01/1972	-1
09/25/1973	01/01/1972	-1
01/25/1973	01/01/1972	-1

# Very old ages / DOB

(187)

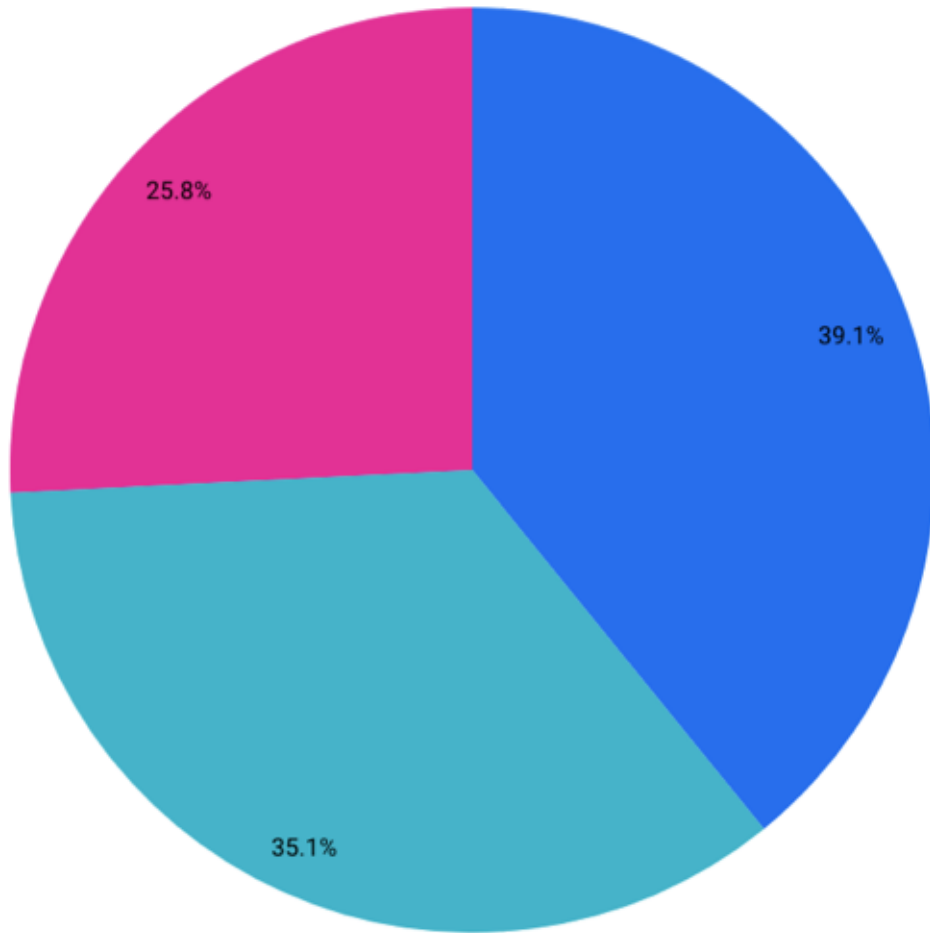
DOB	AGE	County
09/06/1903	118	CHESTER
07/10/1904	117	CHESTER
08/30/1912	109	CHESTER
12/12/1914	107	CHESTER
01/13/1914	107	CHESTER
02/20/1915	106	CHESTER
08/08/1915	106	CHESTER
08/17/1915	106	CHESTER
06/05/1916	105	CHESTER
07/24/1916	105	CHESTER
08/24/1916	105	CHESTER



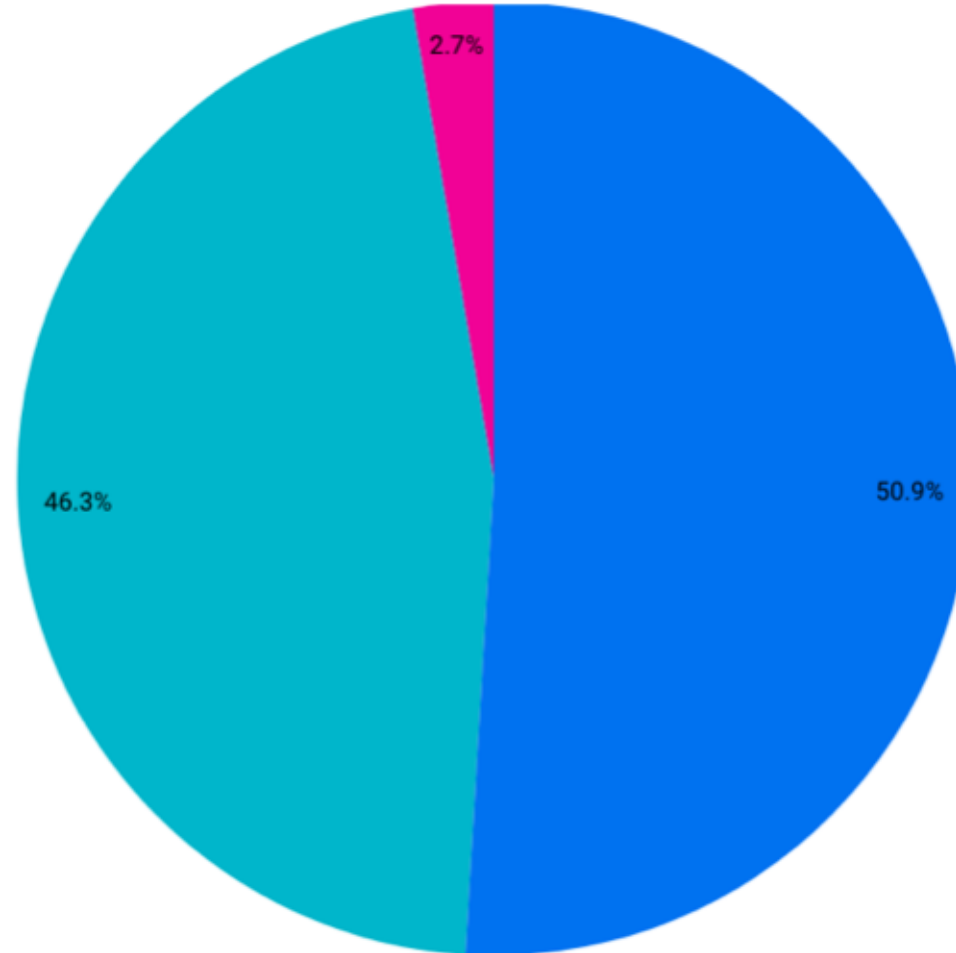
# Registrations with unknown genders

(10,009 in Chester County; 2,273,389 Statewide)

STATEWIDE



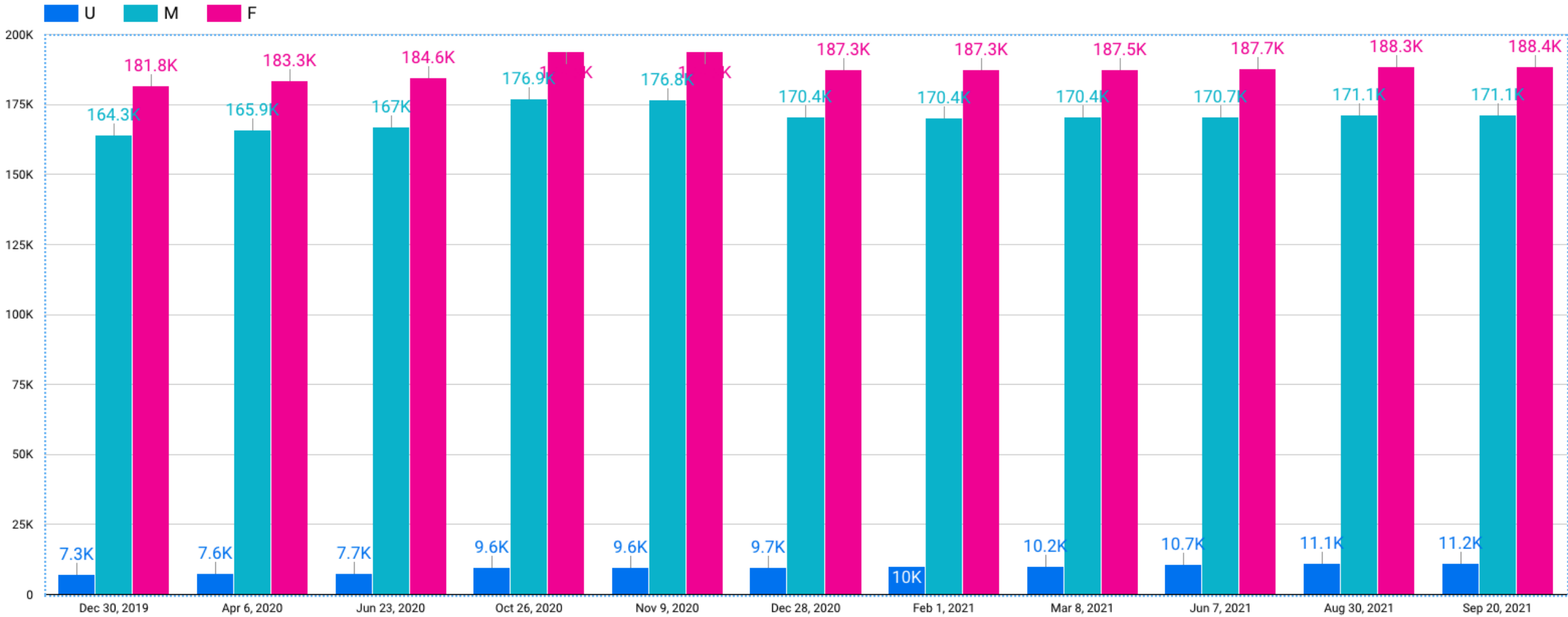
Chester County



F  
M  
U

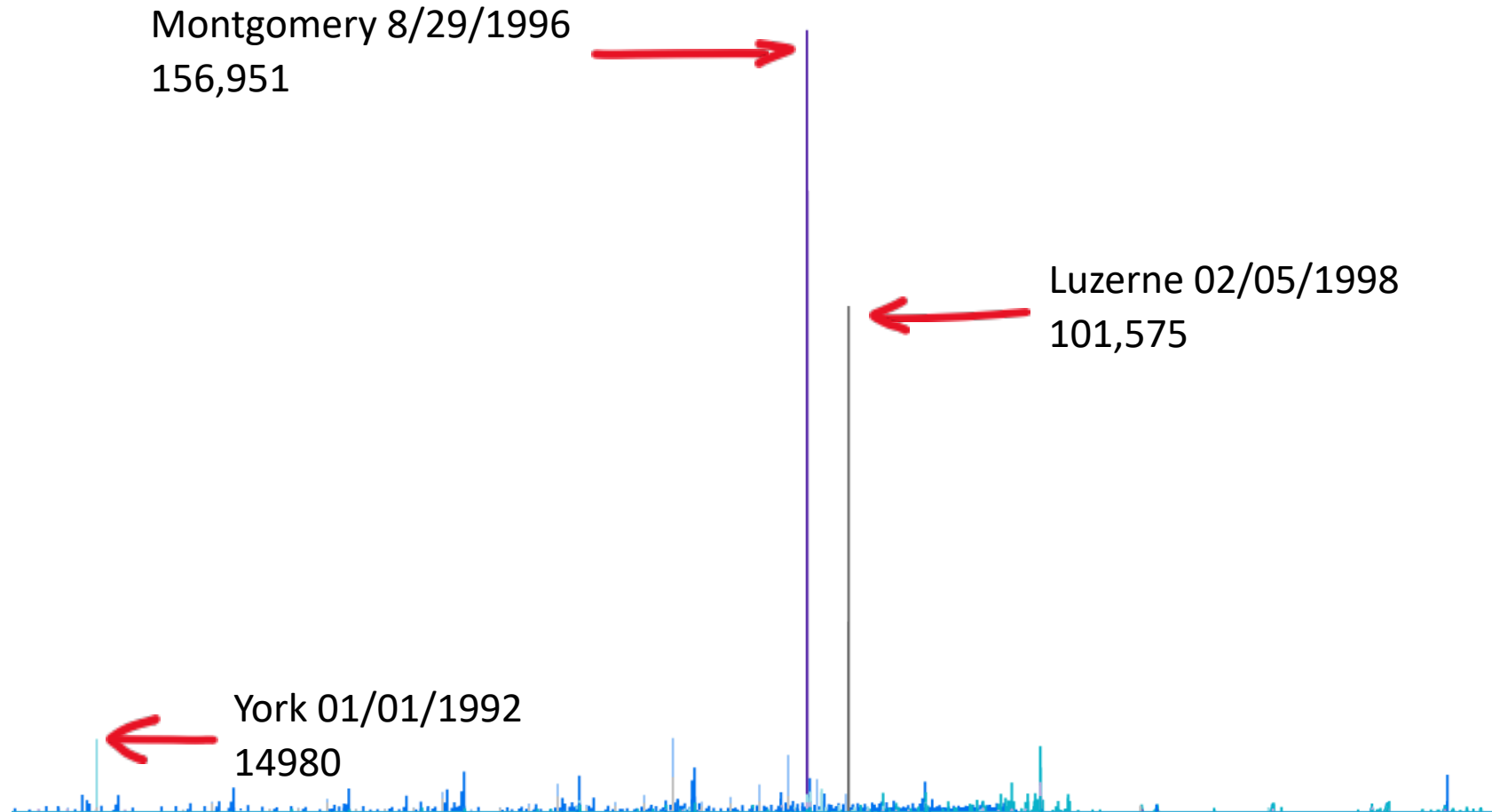
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# Anomalous spikes in registrations on specific days in specific counties

(14,430 on 01/01/1972 on is Chester County's highest)



# What other indications do we see that indicate there's a data integrity issue?

- Mail ballots recorded as being received before sent  
66 ballots from Chester County, the highest in the state
- Registrations with changing Birthdates  
hundreds of cases involving Chester County
- Registrations with changing Registration dates  
hundreds of cases involving Chester County
- Registrations whose county changes, only to change back in the next list  
thousands tied to Chester County
- **Re-use of unique voter ID number**  
124 instances of registrations sharing the same ID number with at least one other registration
- Registrations whose DOB and Registration date would indicate the person registered under 17 years of age, with many under 0 years of age  
1,263 cases of people registered to vote in Chester County UNDER the age of 17  
73 of the above cases involved people registered to vote in Chester County UNDER the age of 1
- Very old ages / DOB  
187 registrations in Chester County 100 years or older
- **Improper crediting of voter history**  
822 registrations have either a Last\_Vote\_Date of 11/03/2020 but no Vote method for the 2020 election, or vice versa
- Nearly a third of Pennsylvania's registrations are neither female or male (~2.3M)  
10,009 registrations in Chester County have an unknown gender  
This number has been steadily increasing in Chester County
- Anomalous spikes in registrations on specific days in specific counties, unrelated to system changes  
Chester County's day of highest registrations was 01/01/1972 with 14,430 registrations



# What do these anomalies mean?

## What is Data Integrity and its significance?

From the Parental Drug Association, an explanation on why data integrity is important:

*Data rising to the standard that is commonly referred to as having “integrity” generally include five key attributes (1):*

- *Accuracy – no errors or editing without documented amendments*
- *Attributable – information lists who acquired the data or performed an action and when*
- *Available – for review and audit or inspection over the lifetime of the record*
- *Complete – all data are present and available*
- *Consistent – all elements of the record, such as the sequence of events, are dated or time stamped in expected sequence*

***Howard Sklamberg, Deputy Commissioner for Global Regulatory Operations and Policy, U.S. FDA, has said that the lack of data integrity is often “just fraud” (2). In today’s complex supply chain, it is more critical than ever to ensure the integrity of the data documented for the testing and manufacture of medicinal products.***

**Thank You!**